Opinion | Mark Loquan
The shades of green—addressing the unintended consequences of clean energy production. Page 12

Opinion | Jerome Dookie
From ideas to action. Page 14

energynow

A publication of the Energy Chamber of Trinidad and Tobago

energy.tt • @ttenergychamber

Issue 44 **June 2023**

Campbell: It's an "and", not an "or" conversation...

Speaking at the Caribbean Sustainable Energy Conference, David Campbell, President of bp Trinidad and Tobago, said that bp has changed since the launch of its new purpose, which is to move toward NetZero by 2050 or sooner. He said you could see the change in all areas, including in investments. Two years ago, the company was making 3 percent of new investments in non-oil and gas, this year, he said it would be 30 percent, and it would move to 50 percent in two years' time. **page 3**

David Campbell (right) speaks during the Platinum CEO's panel at the Caribbean Sustainable Energy Conference. (Also in photo, Dr Thackwray Driver, President and CEO of the Energy Chamber of Trinidad and Tobago and Arlene Chow, CEO, Heritage Petroleum).

TT Iron Steel Company Ltd: Plans to produce low carbon emission/green steel Page 03
Challenger Energy: Cory Moruga sale update Page 04
Erik Keskula selected as new Heritage head Page 04
Aquaterra Energy seals multi-million riser deal with BP Page 06

NEWS	OPINION	ENERGY UPDATE	EFFICIENCY	CARBON MARKETS
page 3	page 13	page 18	page 20	page 21

Stuart Young: We need to talk about energy security

Hon. Stuart Young, Minister of Energy and Energy Industries during his keynote address, focused on "reality"

page 03

Launch of the Proman Foundation

The foundation will create a new structure and embed an employee-led approach to the company's long-term community engagement, skills development, and Corporate Social Responsibility (CSR) programmes nationally.

page 05

EnergyNow Q&A with Arthur Alexander

Arthur Alexander is Senior Health, Safety, Environment and Carbon (HSE+C) Manager at bpTT.
Here he talks about the energy transition and what it has meant for the company.

page 06

VISIT AND FEEL THIS VIEW

LAND FOR SALE

Ideally located in close proximity to all the amenities Maraval has to offer

Beaumont Ridge

24-Hour Security
Two Lots With Two Deeds
End/ Corner Property
Exclusive Living

Beaumont | Exclusive Lifestyle
Maraval, Trinidad W.I

59,685 Sq Ft of Undulating
Freehold Land

BY APPOINTMENT ONLY CONTACT MARC: (868)-779-6764

Campbell: It's an "and", not an "or" conversation...

(continued)

When it comes closer to home (in T&T), "it's very much an 'and', not an 'or' conversation," he said. "Yes, the world wants to decarbonise, but it also wants a planned and non-chaotic transition. bp will invest in both oil and gas and almost equally in new areas. In Trinidad and Tobago, the company just invested in a large-scale solar plant; bp has invested US$800 million in Trinidad and Tobago this year, and over $3.5 billion over the last four years."

Campbell said that natural gas had an important role globally in the energy transition. He added that the industry had not done a good job in highlighting the difference between natural gas and other fossil fuels.

"It's important because it is a bridge fuel," he said, adding that investments in gas must continue for some time while other sources of energy, including renewable energy, are brought on. "It's important to also use natural gas as a backup. Natural gas is critical for the production of petrochemicals, which are needed by the world."

The bpTT president highlighted that Trinidad and Tobago was very important to bp, since 10 percent of the company's total production came from the country—the largest net natural gas producer in bp's business portfolio. He added that it was always important to bp and continues to be.

Campbell said: "We would like more gas in our portfolio in bp, and I see a real potential growth story in TT. The real prize is moving into the deepwater. We are working with Woodside and the ministry to go after blocks and shooting seismic, trying to bring more gas in. bp and the world want and need that gas from Trinidad."

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

TT Iron Steel Company Ltd: Plans to produce low carbon emission/green steel

Staff Writer | Energy Chamber

TT Iron Steel Company Limited has signed a sale and purchase agreement with Christopher Kelshall, the liquidator of ArcelorMittal Point Lisas Ltd. (In Liquidation), to acquire the iron and steel plant in the Point Lisas Industrial Estate, Couva, Trinidad. Completion of the transaction is subject to approval by the Government of Trinidad and Tobago.

The plant is one of the largest steel mills in the Americas, pairing low carbon emission, natural gas-based direct reduced iron technology with electric arc furnaces for steelmaking. Originally constructed in 1980, the plant deployed cutting-edge technology at the time, and was upgraded by continuous investment over the years. Initial refurbishment and restart of the plant is expected to cost US$150-200 million (TT$1-1.4 billion) over the next 24 months with further investment required thereafter.

Currently, 70 percent of the world's steel is made using traditional coal-based blast furnaces that emit 2.0 to 2.5 tonnes of CO_2 per tonne of steel produced. The remaining 30 percent is made using electric arc furnace technology (0.8 to 1.5 tonnes of CO_2 per tonne), primarily fed by recycled/scrap steel and/or low carbon emission direct reduced iron, as at Point Lisas. Direct reduced iron is produced from iron ore smelted with natural gas and/or hydrogen, which has lower carbon emissions than coal-based technologies. The plant historically used natural gas, however, TT Iron intends to transition to green hydrogen in the coming years as it becomes commercially available. This will reduce the plant's carbon intensity to 0.4 tonnes of CO_2 per tonne of steel produced. Restarting the iron and steel plant and then transitioning to green hydrogen will put Trinidad and Tobago back on the map as a world leader on the cutting edge of low emission steel production technology.

More than 1,000 jobs will be created during the refurbishment and start-up phase and, when fully operational, the plant will create long-term employment for 500 skilled workers. TT Iron believes that restart of the plant will indirectly create many more jobs, for instance through maintenance and construction services, port services, downstream manufacturing (e.g. reinforcing bar and fencing), demand for green hydrogen and renewable energy, etc.

Founder, President, and Chief Executive Officer Gus Hiller is a veteran of the steel industry and no stranger to the Trinidad and Tobago. He spent six years of his career on the Point Lisas estate at the helm of Nucor and has managed and operated steel plants across United States of America and Canada.

Commenting on the purchase agreement, Hiller said: "We believe there is great potential for the plant to return to the forefront of global steelmaking technology and performance. Our team was drawn to Trinidad and Tobago due to its strategic location, skilled workforce, potential to be a hydrogen leader and an enabling business environment. We are confident we will be able to bring on stream and operate an efficient, cutting-edge steel mill which we expect and hope will start production within the next 12 to 18 months; certainly, no later than December 2024. The restart of this plant will create a long-term sustainable industry that generates secure employment and wealth for the citizens of Trinidad and Tobago for generations to come."

In addition to providing additional revenue, significant foreign exchange to the treasury, and increased employment (TT Iron will utilise more labour per molecule of natural gas/hydrogen on the island), Chairman of TT Iron Joel "Monty" Pemberton said: "The restart of the local steel industry continues the vision of the Trinbagonian pioneers who conceived it, and we are enhancing this vision with the full use of green hydrogen in the shortest possible time frame; this is the fuel of the future. TT Iron is passionate about the development of the downstream manufacturing sector of higher-value iron and steel products in Trinidad and Tobago, this will further increase employment and wealth creation in the country. Our ESG principles are anchored in producing lower-carbon products, the promotion of entrepreneurial activity in Trinidad and Tobago through the development of the downstream manufacturing sector, and establishing an apprenticeship programme for youth development, thereby creating sustainable employment for generations in the clean energy industry".

Commenting on TT Iron's acquisition of the steel plant, Christopher Kelshall said: "I am thrilled to see this asset being acquired by a company focused on the development of Trinidad and Tobago, especially with the future use of green hydrogen. The investment by experienced industry veterans will see Trinidad and Tobago continue to be a credible player in the global steel industry. Further, this investment represents a significant step to continue to diversify the downstream energy industry in Trinidad and Tobago."

TT Iron was represented by the law firm Dentons. Attorney Shalini R. Campbell, Managing Partner - Trinidad and Tobago, led the transaction and was supported by Rachel Welch-Phillips, Partner - Corporate Commercial | Head of ESG & Sustainable Finance. Both are Directors on the Board of TTIS along with Chairman Pemberton, underscoring the company's commitment to sustainable development and good environmental and social governance.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Stuart Young: We need to talk about energy security

Staff Writer | Energy Chamber

At the opening ceremony of the Caribbean Sustainable Energy Conference 2023, Hon. Stuart Young, Minister of Energy and Energy Industries during his keynote address, focused on "reality" and the need to focus on energy security. He said that this needed to be the leading platform and pillar of our way forward.

Young acknowledged the need to decarbonise and reduce methane emissions, but wanted to make it clear that the region only accounts for a small percentage of emissions in the world. He said the three largest emitters in the world accounted for 45% of emissions, while the entire Caribbean and Latin America for less than 3%.

He also said that the availability of solar panels was negatively impacted by the Russian invasion of Ukraine and new policies in the USA, and alluded to the fact that development of projects in Europe and the USA inevitably made it more difficult for the Caribbean to access solar panels and drove up the price of projects.

According to the Minister, the large-scale solar project in T&T saw cost escalations because European projects were accelerated due to the gas crisis, which was driven by the sanctions against Russia, effectively cutting off the gas supply to key markets in Europe. This caused European power producers to seek power from other sources. In some cases, coal plants were restarted to maintain power availability; coal being one of the highest emitters of CO_2 which can be used to generate power. However, this decision was made to ensure energy security in Europe, despite the climate impact.

The Caribbean and Latin America also need energy security. CARICOM is desperate to reduce emissions and switch from heavy-emitting fuels like diesel and fuel oil, but financing projects is difficult, especially with the price escalation.

Trinidad and Tobago, however, has energy security because of its natural resources. Young made it clear that the country would continue to use its natural resources while going after lower carbon developments. T&T was in a very good place, he said, because it had the infrastructure to move through the energy transition, and government was working with stakeholders to ensure that the transition occurs. The country will soon have a large-scale renewable energy project, which will generate 10% of the country's electricity. He also pointed to the work being done on wind energy by the IDB and the EU.

Trinidad and Tobago was looking at carbon capture, utilisation and sequestration, he said, pointing out opportunities to capture CO_2 from the Pt. Lisas estate, adding that the infrastructure already existed to begin work in this area.

He also announced that government will be moving ahead with the green hydrogen project and indicated that cabinet had already taken the decision to invest in the project. He informed the audience that the private sector would soon be invited to invest in the project.

While he noted that the country was moving in the right direction, he suggested that we needed to move faster.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Back to Top

news

Arlene Chow retires from Heritage Petroleum

Staff Writer | Energy Chamber

After four years of service, Chief Executive Officer and veteran energy professional Arlene Chow will retire from Heritage Petroleum Company Limited (Heritage).

With over four decades of sterling contribution to the energy sector, the geologist and engineer bids farewell to Heritage and to an exceptional leadership career in the industry.

The results of her stewardship have been impressive. Between 2018 and 2022, production on fields operated by Heritage grew by 21%, and last year witnessed a 49% increase in revenue. The financial performance confirms that the state enterprise can now firmly pay its own way. Today, the company has met all its legacy debt obligations, paid all its royalties, levies and taxes, and invested in production growth and asset integrity.

The first and only woman in Trinidad and Tobago to head a national energy company, Chow's knowledge and significant contribution to the industry is shaped by an extensive career that began in 1982 as an Operations Geologist in Exploration and Production at Petrotrin, immediately after graduating with a BSc (Hon) in Geology and Chemistry from the UWI, Mona, Jamaica, and an MSc in Engineering from the University of Florida. She quickly moved up the ranks to a Development Geologist and Technical Specialist in Mapping, and then Well Information Systems, before moving on to energy major AMOCO Energy Company (T&T) Limited as Database Administrator, Gas Asset Management in 1998.

By 2000, she was promoted to the position of Head, Exploration & Production, Computer and Information Systems after the company was acquired by BP p.l.c. In 2001, Chow assumed the role of Subsurface Team Lead and Delivery Manager for Teak, Samaan Poui (TSP) to manage operations and production in a mature reservoir and ultimately sale of the asset. During that period, she developed reservoir management plans and a portfolio of prospects with a team of geoscientists and engineers, to arrest mature field decline by applying new thinking and innovative technology to optimise performance. This experience proved to be good preparation for her recent work at Heritage where she has led interventions in field decline and secondary recovery methods.

In 2005, bpTT appointed her Vice President Corporate Operations with responsibility for Performance Management, HSSE, Facilities Management and Information Technology for the company.

In 2009, Chow moved to BP Alaska, first as North Slope Infrastructure Manager, then as Head of the Project Management Office to restructure BP Alaska into a functional organisation. She was later appointed to Area Operations Manager, with accountability for leading four of the northernmost oil fields in safety, operations and production. Her sterling performance in Alaska led her to the role of Chief of Staff for the BP's Global Production Division, as advisor and key support to the Executive Vice President's Office for performance delivery in the areas of Standards/Policies/Processes, Safety & Operational Risk.

On return to Trinidad in 2014, Chow was appointed to the position of Chief Operating Officer (COO) at Atlantic LNG, where she directed the organisation through safe reliable and efficient operations, managing annual operating, production, and capital expenditure budgets of over US$300 million annually and delivering revenues of over US$1 billion. She retired in 2018 from that position.

In 2019, then Minister of Energy and Energy Industries, the late Franklin Khan invited Chow to come out of retirement to support the Heritage Board in transitioning the organisation into a profitable, lean, and high-performing company. Chow worked with the Heritage Board to execute on a strategy to "Stabilise, Strengthen, and Optimise" the company's assets.

Distinguished by her low-key, straightforward, and straight-talking management style, she is known to put the work and her people first. Throughout her career, she has maintained a deep commitment to her country, an unwavering connection to her home community of Sangre Grande, and a love for the simple life.

Speaking of her contribution, Chairman Michael Quamina said of Chow, "Arlene has been instrumental to the continuing turnaround at Heritage. We have relied on her industry knowledge and expertise in managing mature fields to actualise our vision for a viable and sustainable business. She has played a major role in shaping our plans for integrity upgrade and decommissioning of aging infrastructure, while at the same time leveraging technology and innovation to optimise production from finite resources. She has delivered immense value to the company and, in doing so, has provided sterling service to the country as we seek to maximise value from our hydrocarbon resources.

"We are now at a juncture where we must make tough strategic choices that will be informed by sustained lower oil prices, further resource decline, and a more aggressive integrity programme. This phase of the journey will be led by our incoming CEO." Notably reticent of the limelight, Chow says this time, she is retiring for good. "It has been quite a journey. Many challenges but also many rewards. Today we are scaled for efficiency, have the right talent on board, and consistently turn a profit. However, moving forward, considerable headwinds remain given that market changes, aging assets, and legacy debt payments will impact profit margins. But even with these challenges to its future profitability, I believe that Heritage will continue to be an important contributor to GDP for a long time.

"I feel confident that I leave Heritage with a strong foundation and am proud to have played a part in this national success story. As I have always said, the greatest asset in Heritage is that which is above the ground, the dedicated team of professionals that has worked so hard to build a delivery culture and achieve these results. Leaving is bittersweet as Heritage has been my passion for the last four years."

Chow's retirement took effect on June 13, 2023, when Erik Keskula assumed the role of CEO.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Challenger Energy: Cory Moruga sale update

Staff Writer | Energy Chamber

Challenger Energy, the Caribbean and Americas focused oil and gas company, with a range of oil production, development, appraisal, and exploration assets, provided an update in relation to the sale of the Cory Moruga licence, onshore Trinidad.

On March 8, 2023, the company announced that it had entered into an agreement with Predator Oil and Gas Holdings PLC pertaining to the sale of the Cory Moruga asset in Trinidad. In that announcement, it was noted that completion of the transaction was conditional upon consent of Trinidad's Ministry of Energy and Energy Industries (MEEI) to a revised work programme for the Cory Moruga licence proposed by the company, as well as the MEEI's agreement to a revision of future fees for the Cory Moruga licence and a settlement/cancellation of past claimed dues pertaining to the same. It was further noted that the parties had agreed to work together to secure the required consents, and thus achieve completion as soon as reasonably practicable on or before May 30, 2023, with a long-stop date of August 31, 2023.

Since March 2023, the parties have worked together as required, and are engaged in dialogue with the MEEI. This is proceeding well, but the conditions for completion of the transaction have not been satisfied as of May 30, 2023. The parties remain confident, however, that appropriate consents and agreement with the MEEI will be forthcoming based on dialogue with the MEEI. Accordingly, the parties have mutually agreed to an extension of the May 30, 2023 target date for completion of the intended transaction, to coincide with the long-stop date of August 31, 2023.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Erik Keskula selected as new Heritage head

Erik Keskula

Staff Writer | Energy Chamber

Chairman Michael Quamina and the Board of Directors of Heritage Petroleum Company Limited (Heritage) have selected Erik Keskula as the CEO of the company. Keskula will serve as the CEO Designate for the period June 1–13, and will assume full responsibility when Arlene Chow, current CEO, retires from the company on June 13, 2023.

The selection of Keskula as the new CEO followed a rigorous recruitment process which considered candidates from Trinidad and Tobago as well as the international oil and gas industry.

Keskula is an extremely well-regarded leader in the international oil and gas industry with over twenty-five years' experience in exploration and production. He has functioned in several executive and senior management positions with ConocoPhillips in different regions across the world, including President Malaysia, Vice President North Slope Operations, North Slope Development Manager, Vice President Subsurface, Exploration Planning & Portfolio Manager, and Seismic Technology Manager. Keskula sees himself as fortunate to have been involved in growing production and delivering projects throughout all stages of the asset lifecycle including start-ups, mature assets, and joint ventures. With a passion to improve the business through continuous improvement and new ideas, he values and cultivates the relationships required to develop and deliver strategic plans and long-term value for the company.

Keskula is committed to the development of employees and has always worked with leadership to cultivate and promote a productive work culture. Recognising the value of a diverse workforce, he has also fostered development leadership programmes to ensure that the talent pipeline is healthy and that the future is secured by having the right talent in place.

Keskula is well qualified, holding a Master of Science in Engineering and Technology Management from Oklahoma State University and a Bachelor of Science in Geophysical Engineering/Minor Mathematics from the well-known Colorado School of Mines. He brings the right mix of operational, technical, commercial, and stakeholder management skills to be the new CEO of Heritage Petroleum Company Limited.

With Keskula's impressive and wide-ranging skills and experience, the Board of Directors is confident in his ability to take Heritage forward.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Back to Top

Launch of the Proman Foundation—delivering opportunities for sustainable development across Trinidad and Tobago

Proman Foundation: Proman Volunteers at Habitat for Humanity Community Build Project (www.proman.com)

Staff Writer | Energy Chamber

Leading methanol and ammonia producer Proman has today announced the launch of its first charitable entity, the Proman Foundation, in Trinidad and Tobago.

The foundation will create a new structure and embed an employee-led approach to the company's long-term community engagement, skills development, and Corporate Social Responsibility (CSR) programmes nationally.

It will commence with an initial investment of US$1.65 million for the period 2022–2023. Through this allocation Proman will continue to build partnerships with local and global programme partners to deliver high-impact initiatives that will support Trinidad and Tobago in achieving its development aspirations.

In launching this initiative, Proman Trinidad's Executive Director and Chairman of the Proman Foundation, Claus Cronberger, remarked:

"We are extremely proud to launch the Proman Foundation, which builds on our long-standing commitment to community support and development across Trinidad and Tobago. The Foundation enables our team to increase targeted support to initiatives delivering measurable and lasting impact, which are closely aligned with Proman's core sustainability commitments. Most importantly, our employees will be at the heart of the foundation, actively engaged in every step of the process, from nominating, screening, and assessing each partnership, to volunteering their efforts to support the programmes that are delivering meaningful change within our communities."

Cronberger continued, "I take this opportunity to thank all our charitable and NGO partners and supporters for their remarkable efforts to date, which have transformed the lives of so many. We look forward to continuing and expanding this work through our ongoing investment and partnerships."

Projects supported by the foundation to registered NGOs and charities will be managed through a stringent selection criterion, guided by five main CSR pillars:

- Education & Skills Training
- Environment, Health, Safety & Sustainability
- Arts & Culture
- Sports
- Community Development

These CSR pillars are aligned with Proman's overarching sustainability objectives, which focus on long-term impact and skills development, as well as the company's commitment to the United Nations' Sustainable Development Goals (UN SDGs).

The Proman Foundation is governed by a board of directors and supported by a dedicated employee CSR Committee who lead on coordinating and supporting the success of our partnerships, as well as ensuring transparent reporting and impact assessments.

To date, Proman is extremely proud of the flagship investments made by the foundation through our partner programmes with:

- Habitat for Humanity Trinidad and Tobago
- Merry Boys Cricket Club
- Presentation College, San Fernando
- Proman Starlift Steel Orchestra
- Prince's Trust International
- The University of Trinidad and Tobago (UTT)—MTCC Caribbean, Centre for Maritime and Ocean Studies
- The University of the West Indies (UWI)
- The Trinidad and Tobago Commonwealth Games Association

One partnership which exemplifies Proman's commitment to long-term skills development and lasting impact is with Habitat for Humanity Trinidad and Tobago. In the latest phase of this long-term partnership, we helped over 860 persons across the island through delivery of Habitat for Humanity's Construction Technology Training programmes, provision of resilient roof retrofitting solutions, development of rainwater harvesting systems, and the completion of other construction projects to enable our communities to better withstand natural disasters.

Habitat for Humanity Trinidad and Tobago's National Director, Jennifer Massiah, remarked:

"We firmly believe that for real transformation to take place throughout our nation, focus must be on community and youth engagement. Through our CARE disaster-mitigation programme (Creating A Resilient Community) with the Proman Foundation, families in Trinidad and Tobago are able to have their homes safely fortified against the adverse effects of high winds, floods, and other natural disasters. Additionally, our young adults with minimum construction skills are also building their capacity through a very intensive Construction Technology course, which adds to community empowerment. Together we are strengthening the capacities of our young people, while building resilient communities."

Through the projects being implemented with our partners, we strive to always make a positive contribution across the communities we serve. As such, the Proman Foundation is committed to investing in initiatives that will deliver measurable and sustainable returns to our employees, our communities, and Trinidad and Tobago.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Touchstone Exploration subsidiary awarded onshore block in Trinidad and Tobago 2022 bid round

Staff Writer | Energy Chamber

Touchstone Exploration has announced that its wholly owned subsidiary, Primera Oil and Gas Limited (Primera) was awarded the Cipero onshore block in the Trinidad and Tobago 2022 Onshore and Nearshore Competitive Bid Round.

According to a press release by the company, the Trinidad and Tobago government has authorised the Ministry of Energy and Energy Industries (MEEI) to enter into discussions with Primera for the grant of an Exploration and Production (Public Petroleum Rights) Licence for the Cipero block.

In addition, Primera was notified that its bid on the 72,784 gross acre Charuma block did not meet the technical requirements for the grant of an Exploration and Production (Public Petroleum Rights) Licence. However, the Trinidad and Tobago government has authorised the MEEI to enter into discussions with Primera to improve the minimum work programme for the possible grant of a licence.

The 29,924 gross acre Cipero block is a strategic area for Touchstone, given its proximity to Rio Claro and the Ortoire block.

The bid committed the company to complete various geological studies, reprocess existing 2D seismic data, and drill an aggregate four exploration wells on the block during the initial six-year exploration period of the Licence.

Heritage Petroleum Company Limited is expected to have a 20% working interest in the Cipero block, with all exploration work commitments carried during the six-year exploration term of the Licence.

According to the release, Primera will commence discussions with the MEEI to possibly enhance the minimum work programme bid for the Charuma block.

Paul Baay, President and Chief Executive Officer, Touchstone Exploration, said: "With this successful outcome, we have been able to secure extensive acreage in the Herrera fairway. Although the primary geological target for the Cipero acreage is the Herrera Formation, our team has also identified additional targets within the Cretaceous. In addition to the execution of the licence, we will be required to conduct geological studies, reprocess existing 2D seismic data, and apply for regulatory permits prior to drilling, which is anticipated to take a minimum of three years. We are excited to formally commence working on the block and will provide further updates and details when the licence has been executed."

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Back to Top

news

EnergyNow Q&A with Arthur Alexander

Arthur Alexander is Senior Health, Safety, Environment and Carbon (HSE+C) Manager at bpTT. Here he talks about the energy transition and what it has meant for the company.

Staff Writer | Energy Chamber

Q: How would you describe bp's journey since it launched its Net Zero ambition?

Although that was only 2020, a lot has changed for bp and the world. At that point, bp set out to transition from an international oil company to an Integrated Energy Company which was a big undertaking. Since then, the world has faced a pandemic and, more recently, war in Ukraine. Both have affected global energy demand and supply in different ways.

While we respond to these developments, our strategy has remained the same. We continue to focus on the energy trilemma, as we call it, or meeting the world's need for energy that is secure, affordable, and lower carbon. As our CEO Bernard Looney put it recently, it's a case of "and" not "or". Globally, we are investing in today's energy system which is predominantly oil and gas, and at the same time, we're investing in cleaner forms of energy.

And globally we are making progress. We announced up to $8 billion more investment into what we call our transition growth engines—bioenergy, convenience, EV charging, hydrogen and renewables, and power. In three years, the capital we've invested in our transition growth engines has gone from 3% to 30%.

Q: More recently, bp launched its Sustainability Frame. How is that connected to the Net Zero aims?

Globally, a strong environment, social and governance (ESG) framework is no longer a "nice to have". Consumers and shareholders are focusing more on how organisations operate. This goes beyond companies operating in the energy sector.

Our Net Zero aims focus on reducing emissions from our operations and helping the world get to Net Zero. Our Sustainability Frame goes a step further, including aims which lay out how we are going to go about improving people's lives and caring for the planet. The frame lays out how we operate as a company, with the understanding that even as we provide energy, we are doing that in a way that demonstrates our care for people and the planet.

Q: How has the company changed?

A lot has changed. Using my experience as a guide, I would say that up to a few years ago, the role of a leader within HSE would have been different. The focus remains on keeping our people safe as well as ensuring the safety of our operations, but my role is now aligned more closely with the Sustainability Frame which includes social and environmental impacts. This approach is manifested in different ways. For example, our approach to managing environmental issues has widened to include social impact. bp has also added management of carbon emissions to the traditional HSE role. Our team is now HSE+C but it's more than a name change. We're changing our approach to Health, Safety and the Environment, and as I like to say, it is all guided by the silent "S"—sustainability. Importantly, it's more than my role that has changed. Although I am ultimately responsible, strong HSE+C performance is delivered by each team and must be embedded into our operations.

That, for me, is probably the biggest difference and it is really exciting to be part of the evolution of this approach.

Q: What has the transition meant for bp in T&T?

As the major natural gas supplier locally, we remain committed to meeting our gas supply commitments. We're focused on safely producing energy in a way that is aligned to bp's Sustainability Frame.

Once bp announced its Net Zero ambition, a lot of work went into identifying opportunities for sustainable emissions reductions and we were quite successful in this in T&T, reducing what we call our "business-as-usual emissions" by 3.5% in 2019 and about 10% in 2020 and 2021.

Those achievements were the result of collaboration and integration among several teams across our business and a deep ownership by everyone to find ways to lower our carbon emissions.

We had to identify opportunities, plans, and resources to achieve our targets. We were able to do this, and in fact, we were recognised by the Energy Chamber and AMCHAM for efforts to lower emissions.

I'm proud of what we were able to accomplish because it demonstrated in a tangible way how Trinidad and Tobago can play its role in the energy transition.

Q: What's next—where does the transition go from here?

Since last year we have been evolving our approach from seeking out "big-ticket" items that we used to achieve emission reductions, to more of a focus on how we manage emissions in our daily operations. We are improving our measurement and managing emissions in a way that is similar to how we would monitor our operations across the company. This includes installing meters to first understand what we're emitting. From there we will set targets for our emissions. This is part of our commitment to bp's Aim 4 which calls on us to install methane measurement systems by 2023 and drive a 50% reduction in methane intensity.

Our focus now is on embedding this approach in our operations and ensuring that everyone who works for us understands their role in managing emissions.

We're also making progress in terms of our wider sustainability aims on people and planet.

Our onshore pipeline replacement project, Ocelot is a great example of this. Ocelot is the first project to include biodiversity goals in planning and execution. We are aiming to have a net positive impact on the biodiversity of the area where we are executing the project and I'm really proud that bp is taking this approach. We are already learning a lot from Ocelot and our experience will benefit bp's operations in other parts of the world.

These are exciting times. We have only just begun this newest part of the journey from Net Zero ambition to wider focus on sustainability. Probably the biggest benefit of our approach is setting tangible aims in which we believe we can make the biggest difference for bp, our stakeholders, and society. We continue to work on strengthening that link between safe and reliable operations and making a positive impact on society and the planet.

Yes, there are challenges, but we are making tangible progress in the energy transition.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Aquaterra Energy seals multi-million riser deal with BP

Staff Writer | Energy Chamber

Aquaterra Energy has secured a multi-million subsea riser contract through a competitive tender with BP for a subsea well development project located in Trinidad and Tobago. Aquaterra Energy will provide a complete end-to-end managed service as a fully independent riser system and connector OEM.

The contract will see Aquaterra Energy deliver a subsea riser system to BP's Cypre Project, off the southeast coast of Trinidad and Tobago. The system will be operated from a jack-up rig, supporting gas exploration from seven development wells in a water depth of around 80m. As part of the project, Aquaterra Energy will be providing local-in-country content, working alongside local fabricators, and transferring knowledge to teams. Drilling activities are expected to commence in 2023 with gas production to begin in 2025.

James Larnder, Managing Director of Aquaterra Energy, said: "This contract cements our position as one of the leading riser system specialists globally. We're proud to say we won our first riser contract with BP back in 2010, and 13 years on we continue to work together. BP chose us because we could deliver a fully integrated approach with access to solution driven engineers. This is one of the reasons why our riser project experience continues to grow, and I am looking forward to the next part of that journey."

Andrew McDowell, Operations Director at Aquaterra Energy comments: "The win further demonstrates our team's global riser system expertise and collaborative approach to project delivery. We're looking forward to sharing this experience and working closely alongside engineers in Trinidad and Tobago, sharing our knowledge and building on existing local capabilities."

Aquaterra Energy will provide an integrated package of equipment, including rig modifications and personnel for full end-to-end delivery, focusing on enhanced offshore efficiency and improved safety.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Back to Top

THE NATIONAL GAS COMPANY
OF TRINIDAD AND TOBAGO LIMITED

NGC+ENERGY = A Sustainable Future

Our journey began with a pipeline and a dream.

We took an underutilised resource and created exceptional national value.

NGC is now up to the challenge of transforming our business for the evolving energy landscape.

This means optimising the value of our core business in natural gas while transitioning into the green energy space.

NGC will endeavor to implement a sustainability vision by:

- Reducing our carbon emissions/footprint
- Supporting T&T's targets for Nationally Determined Contributions (NDCs)
- Exploring green investments and financing
- Pursuing partnerships for sustainable development
- Investing in carbon capture, energy efficiency and green hydrogen

PHOENIX PARK GAS PROCESSORS LIMITED

LA BREA INDUSTRIAL DEVELOPMENT COMPANY LIMITED

Trinidad and Tobago NGL Limited

NGC CNG Company Limited

National Energy
CORPORATION OF TRINIDAD AND TOBAGO

MEMBERS OF THE NGC GROUP OF COMPANIES

news

bmobile launches T&T's first Maritime and Local Offshore Data Roaming Plan

Staff Writer | Energy Chamber

bmobile recently announced the launch of its new Local Offshore Data Roaming Plan and its Maritime Plan, two robust and reliable mobile offerings designed to provide continued connectivity to people and businesses involved in offshore and maritime activity. The new plans, which give access to 10 GB of roaming data, will provide customers with reliable, convenient and secure access to their data services and mobile applications while at sea.

According to bmobile, the Local Offshore Data Roaming Plan (for corporate customers) and the Maritime Plan (for non-corporate customers) will significantly enhance the efficiency of communications for companies and persons engaged in the offshore energy sector while also improving the livelihood, safety and security of fishermen in the offshore roaming zones. Additionally, the plans are positioned to benefit recreational vessels and can serve as one more level of safety for those in the waters around T&T.

Darryl Duke, Assistant General Manager Business Sales, TSTT said, the Local Offshore Data Roaming Plan as well as the Maritime Plan are essential components in the company's continued support of the country. "Supporting the economic development of Trinidad and Tobago is in the very DNA of what we do here at bmobile. Connectivity is the lifeblood of any modern organisation and we saw a need to fill the gap in communications experienced by the maritime industries," Duke explained. "We partnered with a leader in offshore roaming to enable this and expand our portfolio."

"The Local Offshore Data Roaming Plan and the Maritime Plan from bmobile gives coverage in some of the most far-reaching areas in the waters around T&T," says Anton Romany, Senior Manager of Major Accounts at TSTT. "Whether you're a fisherman, a passenger on a sea-faring vessel, or an employee on an offshore rig, you can now rely on bmobile to keep you connected. If for instance you are stranded at sea, you are now able to make a call using any over-the-Top (OTT) application (e.g., WhatsApp, Telegram, FaceTime) from three major zones, which in some areas is as far as 40 miles offshore." He noted that coverage spans from the vicinity of the Poinsettia oilfield in the north, and the Cassia B and Mahogany B oilfields in the south-east. Coverage in the vicinity of the Angelin field is in the works.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Minister Young meets with EOG Resources Trinidad Ltd.

The Minister of Energy and Energy Industries and Minister in the Office of the Prime Minister, The Honourable Stuart R. Young, along with Permanent Secretary of the Ministry of Energy and Energy Industries, Penelope Bradshaw-Niles, met with EOG executives J. Pat Woods, Vice President & General Manager, International; George Vieira, Managing Director; Jerome Lopez, Manager, Finance & Administration; and Lisa Gosine-Alleyne, Managing Counsel.

Staff Writer | Energy Chamber

EOG Resources Trinidad recently provided a detailed update on its ongoing and planned drilling projects and production forecasts. Under its robust two-year drilling plan, approximately twenty wells are projected during the period of 2023–2025. To facilitate this, the Valaris 249-Gorilla VII will be doing the drilling. EOG Resources Trinidad thanked the Ministry of Energy and Energy Industries for its innovation and initiatives in facilitating and negotiating terms for the development of smaller fields that would bring higher volumes of natural gas to the energy market. The company also commended the willingness of the Government of Trinidad and Tobago to have commercial discussions on the monetisation of marginal fields and highlighted that Trinidad and Tobago remains an attractive territory for hydrocarbon investments.

Minister Young provided feedback on the company's production portfolio and positively recognised the company's efforts on the use of local content and the use of new technology for improved seismic images. With the future in mind, both parties acknowledged the present global trends and market factors and agreed to maintain dialogue while working together in a way that is fair and mutually beneficial.

EOG Resources Trinidad Limited, is a local subsidiary of US-based energy company EOG Resources Inc. It holds several concession contracts for the supply of natural gas in Trinidad and Tobago, accounting for approximately 3% of the group's global reserves.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

NGC signs MOU to explore small-scale LNG projects

Staff Writer | Energy Chamber

The National Gas Company of Trinidad and Tobago Limited (NGC) has signed a Memorandum of Understanding (MOU) with a consortium comprising Globus Energy Group Trinidad Limited (Globus Energy), Corban Energy Group (Corban Energy), and Chester LNG, LLC (Chester LNG), to identify and screen technologies for micro and small-scale LNG development projects in the Caribbean. This MOU signing signals the commitment of all the companies involved to explore viable solutions to effectively manage energy security and low-carbon energy transition, and potentially expand the use of LNG across the region.

There is a pragmatic case for incorporating LNG as part of the energy transition in the Caribbean. While sustainable energy has well-defined financial, social, environmental, and economic benefits, the region faces significant challenges in making a transition to renewables. Small Caribbean islands cannot adopt wholesale, a standardised model of transition to renewables, as they all have different geographical characteristics and economic circumstances.

As the world transitions towards low-carbon energy, harnessing natural gas—the cleanest burning fossil fuel—provides an opportunity to reduce carbon output during the energy transition. As such, micro and small-scale LNG projects can positively contribute to creating a cleaner energy mix for the region, as well as support climate change action within the Caribbean. The MOU provides an opportunity to explore the feasibility of small-scale LNG projects as well as the possibility of sourcing the LNG supply from gas reserves locally and across the region, to deepen and expand the value chain.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

bpTT adds production from Mango field

Staff Writer | Energy Chamber

bpTT has announced the successful completion of the first phase of its "small pools" drilling campaign which began in October 2022. The campaign includes three wells in the Mango field, one well in the Savonette field, and three wells in the Angelin field.

The first phase of this programme has been completed safely with successful outcomes on all three Mango wells which have already been put into production. The wells are currently producing approximately 180 million standard cubic feet per day (mmscfd) with the third well still ramping up.

The "small pools" drilling programme includes sidetracks of existing wells and access to new exploration segments that have not produced previously. It targets smaller accumulations of gas resources that are near to bpTT's existing infrastructure and allows these resources to be accessed more efficiently and brought into production faster using existing infrastructure. Seismic data re-processing, interpretation, and detailed rigorous well-planning have enabled the positive results of the programme thus far.

The Joe Douglas Jack Up rig has been contracted to deliver the drilling programme and is currently on the Savonette platform to commence the next well. bpTT president, David Campbell said: "The successful completion of the wells in our Mango field is great news for bpTT and for Trinidad and Tobago. It demonstrates our continued commitment to developing resources in our existing shallow water acreage in the Columbus Basin. Our goal is to find and recover as much of the gas resources as we can, small or large and particularly those that can be quickly brought into existing infrastructure. Each successful well helps to stem the declines in these more mature gas fields and contributes to our ability to meet our gas supply commitments to the NGC and Atlantic."

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Back to Top

Steve Berberich appointed President & CEO of JPS

Staff Writer | Energy Chamber

The JPS Board of Directors has announced the appointment of Steve Berberich as the energy company's new President & CEO, effective May 31, 2023.

Steve Berberich is an internationally recognised industry expert in electric grid operations and markets, renewable and related technologies, information technology, and cyber security. He brings over thirty-eight years of experience from fields such as utility leadership, business consulting, financial services, banking, and finance.

Berberich is the former President and CEO of the California Independent System Operator (ISO), which is one of the world's largest transmission organisations, managing the electric grid and wholesale power markets for thirty-two million Californians and throughout the Western U.S. During his tenure, he navigated the ISO through a series of major changes underway in the energy industry. He was instrumental in facilitating the transformation of the power grid to lower its reliance on fossil fuels and driving energy policy to foster new ways to produce and consume electricity.

Recognised as one of the USA's ten most influential energy leaders in 2014, Berberich oversaw the integration of more renewable energy than any other region in the world. He directed the deployment of the USA's first Energy Imbalance Market, which welcomed several additional western states into the ISO's bulk power markets. He is a frequent speaker in the U.S. and internationally about the twenty-first century grid.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Gas to power project in Guyana seeks goods and services from local contractors

Staff Writer | Energy Chamber

The United States consortium, Lindsayca/CH4 (LNDCH4) undertaking the Wales gas-to-energy project is seeking goods and services from local suppliers as it pursues the massive West Bank Demerara (WBD) project.

LNDCH4 has indicated the commencement of the initial phase of its vendor and supplier identification in Guyana. As part of the process the company has extended an invitation to suitable businesses to transform the energy landscape in Guyana.

LNDCH4 aims to establish a new paradigm for energy production in Guyana while prioritising the utilisation of local resources.

The groundbreaking gas-to-energy project holds the potential to not only strengthen Guyana's energy capacity but also generate employment opportunities and foster robust economic growth in the region.

LNDCH4 has indicated that they are seeking companies specialising in various sectors to participate in the project.

A release from the company states "We are particularly interested in collaborating with enterprises that excel in the fields of manufacturing/production, dealers/distributors, maintenance/repair, rental/lease, construction contractors, professional services, and logistics providers. Your invaluable expertise in these areas will be instrumental in ensuring the successful realisation of our transformative goals. Together, we can pave the way for a sustainable and prosperous future within the energy industry."

Mr. Humberto Lopez, the General Manager of LNDCH4 Guyana, said "We welcome the contribution of Guyanese to participate in this groundbreaking project. Together, we can forge a path towards a cleaner and more sustainable future—empowering people and communities."

To participate in the vendor identification process, interested parties are invited to register their interest by completing the online form available at www.bit.ly/LNDCH4GY.

This form will allow potential suppliers and service providers to provide essential information about their organisation, products, or services, enabling LNDCH4 to evaluate their suitability for partnership opportunities.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Back to Top

regional

Trinity spuds deep onshore "Jacobin" well

Jacobin Site

Staff Writer | Energy Chamber

Located in Trinity's Palo Seco Lease Operatorship area, the Jacobin well has been designed to test an extensive and lightly drilled Miocene-age deeper turbidite play mapped across the prolific southern onshore basin and will provide the company with critical new data on this extensive play and the wider Palo Seco acreage. Trinity has a 100% interest in the Palo Seco area sub-licences, where nine deeper prospects have already been mapped.

The well is targeting a structural prospect defined on 3D seismic, with target reservoirs in the Lower Cruse formation. Reaching a total depth of 9,800 feet, Jacobin will be the deepest onshore oil well drilled in the Palo Seco area in over a decade.

The target volume of resources to be exploited is significant and highly material for Trinity, with a mean oil in-place volume of 5.7 million barrels and an upside (P10) case of over 10 million barrels in-place.

Trinity reported that the well was spudded on Monday 15, May 2023 and is currently drilling ahead. The company anticipates the well should reach the primary target zones within thirty-five days, before an extensive programme of data collection will be initiated.

The Jacobin well is one of only a few deep penetrations of the Miocene-age section in the Palo Seco area and a comprehensive data acquisition plan is in place which will include a full wireline logging suite and coring of the reservoir sections. The data collected will be invaluable in the further evaluation of Trinity's portfolio of eight other Miocene "Hummingbird" prospects mapped within its existing acreage, including Emerald, Woodstar, and other prospects mapped on the Buenos Ayres Block which formed an important element of our bid on this block. The company will provide further updates as the drilling of the well progresses.

Jeremy Bridglalsingh, Chief Executive Officer of Trinity, said, "Jacobin is a significant well and potential growth catalyst for Trinity. Jacobin is targeting virgin-pressured reservoirs with higher initial production rates than conventional wells and offers Trinity the potential for reduced payback cycle times and a meaningful production increase. The focus on this new Miocene play, with Jacobin being the first well, demonstrates our real intent to rapidly exploit our competitive edge onshore Trinidad where we can immediately progress from the drilling phase to production. More importantly, we plan to acquire geological data from the well which will enable us to calibrate the prospectivity across the area following our 2020 purchase and subsequent interpretation and mapping of the Palo Seco NWD 3D seismic dataset. A successful well would unlock both a development of the Jacobin prospect itself and follow-on drill-ready prospects and mapped leads across our core onshore acreage including Emerald and Woodstar. As we look to strengthen our footprint in this play, the technical work undertaken for Jacobin also formed a key part of our evaluation and application for the adjacent Buenos Ayres block."

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Latin America and the Caribbean: economic recovery and higher commodity prices drive rebound in tax revenues

Staff Writer | Energy Chamber

Tax revenues as a share of GDP in Latin America and the Caribbean rebounded to their pre-pandemic level in 2021, amid an economic recovery and higher commodity prices, according to a new report.

Revenue Statistics in Latin America and the Caribbean 2023, released at the 35th Regional Fiscal Seminar in Santiago, Chile, revealed that the average tax-to-GDP ratio in the region rose by 0.8 percentage points (p.p.) in 2021 to 21.7%, which is the same level as in 2019, prior to the COVID-19 pandemic. The average tax-to-GDP ratio remained lower than the OECD average of 34.1% of GDP in 2021, by 12.5 p.p.

The new report shows that tax-to-GDP ratios in Latin America and the Caribbean ranged from 12.7% in Panama to 33.5% in Brazil in 2021. The ratio increased in eighteen of twenty-five countries between 2020 and 2021 and declined in the remaining seven countries.

The largest increase was observed in Belize (up by 5.0 p.p. from the previous year), which benefited from a recovery in tourism-related revenue. Strong revenue growth in Chile (2.8 p.p.), Peru (2.7 p.p.), and Brazil (2.4 p.p.) was supported by higher commodity prices and increased revenues from taxes on goods and services, driven by the economic recovery.

The largest decline was observed in Guyana, where nominal GDP rose by 47% in 2021 amid a sharp increase in natural resource production, while tax revenues rose by 16%, resulting in a 4.5 p.p. decline in the tax-to-GDP ratio.

After falling by 0.7 p.p. in 2020 at the height of the pandemic, revenues from taxes on goods and services bounced back across the region in 2021, rising by 0.8% of GDP on average.

Taxes on goods and services remained the main source of tax revenues in the region in 2021, accounting for 50% of total tax revenues on average, with value-added tax accounting for 29.9% of the total. Income taxes generated 26.7% of total tax revenues, with revenues from corporate income tax accounting for 15.4% of total tax revenues.

According to the new report, the hydrocarbon and mining sectors have given a major boost to public revenues. Hydrocarbon-related revenues in the major oil producers rose from 2.1% of GDP on average in 2020 to 2.6% of GDP in 2021 and an estimated 4.2% of GDP in 2022. Mining revenues in major mineral producers rose to 0.68% of GDP in 2021 (their highest level since 2011) and an estimated 0.7% of GDP in 2022.

Revenue Statistics in Latin America and the Caribbean 2023 is a joint publication by the Inter-American Center of Tax Administrations (CIAT), the Inter-American Development Bank (IDB), the United Nations Economic Commission for Latin America and the Caribbean (UN-ECLAC), the Organisation for Economic Co-operation and Development (OECD) Centre for Tax Policy and Administration, and the OECD Development Centre.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Touchstone announces additional US$7 million revolving loan facility

Staff Writer | Energy Chamber

Touchstone Exploration has announced that the company's wholly owned T&T subsidiary company has entered into a second amended and restated loan agreement with its Trinidad-based lender providing for an additional US$7 million revolving loan.

The Amended Loan Agreement provides for a US$7 million revolving loan facility in addition to the existing term facility. The existing term facility component of the Amended Loan Agreement currently has a principal balance of US$25.5 million, with seventeen equal and consecutive quarterly principal payments of US$1.5 million outstanding and a maturity date of June 15, 2027. Republic Bank Limited is continuing to act as the sole lender, arranger, and facility agent of the Amended Loan Agreement.

Touchstone intends to use the revolving loan proceeds to maintain financial flexibility while they proceed with Royston-1X production testing operations and Cascadura facility construction where they continue to target for first production on or around June 30, 2023.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Back to Top

opinion

Harness wind power to fuel our petrochemicals industry

editorial

A DETAILED, EUROPEAN Union-funded, expert report was delivered to the Government of Trinidad and Tobago in May 2023, that outlined a pathway to enable wind-energy generation in the country. The report outlined in detail the steps that need to be taken to deliver 2 gigawatts (GW) of installed wind capacity by 2035, using both onshore and offshore wind locations. The report provides an excellent strategic plan to move forward with the development of wind energy, including all the policy, regulatory, and legislative changes that are required to move this initiative forward.

The strategy outlined in the report builds on the work managed by National Energy, along with Inter-American Development Bank funding, on the development of green hydrogen in Trinidad and Tobago.

The country's first major renewable energy project—just beginning construction—is going to be a solar plant, and there is scope for more solar to be brought onto the grid (both large utility-scale projects and small rooftop solar installations). But land availability is always going to be a constraining factor for solar on a small island state like Trinidad, especially given the volumes of electricity that are required to run our highly industrialised economy.

This is where wind power has a crucial role to play, especially offshore wind, in creating a sustainable future for the petrochemical industry in Trinidad and Tobago.

Developing wind power will allow us to divert natural gas from electricity generation to the petrochemical sector and the LNG export sector. Both industries have suffered from shortfalls in gas delivery for many years now. In addition to efforts to drill and develop more gas upstream (or import it from Venezuela), there are also opportunities to decrease the roughly 10% of natural gas production that currently goes into electricity generation and make this available to these foreign exchange earning sectors.

In addition to delivering more natural gas to the petrochemical sector, the advent of large volumes of renewable electricity from wind could also displace natural gas as feedstock for the petrochemical industry (especially ammonia). What the ammonia industry requires is hydrogen and this is currently delivered to the plants from splitting methane molecules, which produces hydrogen for the ammonia production and carbon dioxide as a by-product (much of which is vented into the atmosphere, though some is captured and used in other industries from methanol through to beer).

Clean sources of electricity can be used to produce green hydrogen, split from water molecules rather than methane, that can be fed into the ammonia plants. This will both provide a new sustainable source of hydrogen and also reduce the carbon footprint of the commodities. This second point is important as new import "carbon border adjustment mechanisms" in the European Union will apply tariffs based on the carbon intensity of imported select commodities, including ammonia.

Wind-powered electricity generation will be important for the future of the Trinidad and Tobago energy sector. The recent report provides a good roadmap that the country should follow to bring wind power into the mix. We should urgently begin navigating down that pathway. There is no time to lose.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

From ideas to action

We have come a long way in the past decade, but the emphasis now must be on urgent implementation.

A DECADE AGO, when we first started holding a separate event to look at renewable energy and energy efficiency issues in Trinidad and Tobago, we got very limited participation. Back then we had the event on the third day of the annual T&T Energy Conference and if we got fifty people registering, we thought we had done well.

As interest grew in the subject, we switched to a stand-alone event in the middle of the year, first at the Arthur Lok Jack Global School of Business auditorium and then, when we outgrew that venue, we switched to the Hilton Trinidad and Conference Centre. At that time, a lot of what we were doing was promoting interest in the topic and raising awareness. Discussions tended to focus on overarching policy issues and why it made sense to invest in renewable energy and in energy efficiency in a hydrocarbon-dominated economy.

In 2020, the Sustainable Energy-focused Conference was the first major event that we did as a fully virtual event, in response to the pandemic, and we executed it that same way again in 2021. These were both very successful events, with wider participation from around the region and the world, and there was a clear sense that the basic policy argument around the need for investment in renewables and energy efficiency had been won. The focus was now on the "how" rather than the "why".

In 2022, we switched things around with our Sustainable Energy Conference taking place as a virtual event in January and the main traditional T&T Energy Conference taking place as an in-person event in June (to take advantage of the loosening COVID-19 restrictions). The virtual format for the Sustainability-focused Conference meant that we had more regional participation and we have now reflected that in the conference title, now renamed the Caribbean Sustainable Energy Conference.

This year, with the global health crisis behind us, we went back to the traditional format. We had a hugely successful in-person T&T Energy Conference that took place at the Hyatt Regency Trinidad in January and the Caribbean Sustainable Energy Conference which took place in early June 2023, at the same venue.

Over the past three years the discussions at the traditional T&T Energy Conference have had a clear focus on energy transition, as major energy companies have made commitments to net-zero. We therefore refocused the agenda at the Caribbean Sustainable Energy Conference more on the specifics of project delivery and on technology implementation, to complement the broad strategic policy discussions at the T&T Energy Conference. We wanted the Caribbean Sustainable Energy Conference to be hands-on and practical, and to help our members identify specific opportunities for their businesses. This is why we have chose the theme "From Ideas to Action".

While the scope of the Caribbean Sustainable Energy Conference is regional, the fact that it is based in Trinidad and Tobago—a major global petrochemical hub and important LNG exporter—means that our focus is broader than the electricity sector that tends to dominate the discussions in other Caribbean energy events. Our conference also looks at decarbonising petrochemicals, carbon capture and sequestration, and alternative lower carbon fuels, in addition to panels on the electricity grid and renewable energy.

There has been a tendency in some discussions around energy transition and climate change to see fossil fuels as "the enemy" and renewable energy as "the saviour" (though the world seems to have retreated a little from this position with the concerns about energy security following the Russian invasion of Ukraine). The reality is, however, that fossil fuels and in particular natural gas, are likely to play an important role in global energy systems and chemical production for many decades to come.

The focus needs to be on reducing the carbon footprint of energy systems and this is the focus of our conference. The major oil and gas companies—now repositioning themselves as integrated energy companies—and the petrochemical producers have a huge role to play in delivering this future, so it was great to see their sponsorship of the conference along with our major state-owned energy companies. It was also a pleasure to see our major indigenous bank and the local and international service industries present in the region, stepping up to share their knowledge and expertise.

We have come a long way in the past decade, but the emphasis now must be on urgent implementation. While it is good to look back and see the progress we have made, the reality is that we need to move a lot faster now and into the future. We are moving from ideas to action, but we need to accelerate.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Energy Chamber of Trinidad & Tobago

energynow

President and Chief Executive Officer: Dr. Thackwray 'Dax' Driver
Business inquiries: P (868) 6-ENERGY • F (868) 679-4242 . dax@energy.tt

Suite B2.03, Atlantic Plaza, Atlantic Avenue,
Point Lisas, Trinidad and Tobago

ADVERTISING
Communications Coordinator, Energy Chamber: Michelle Ramrattan
(868) 6-ENERGY • michelle@energy.tt

LAYOUT: Paria Publishing Co. Ltd. • www.pariapublishing.com

MEMBERSHIP ENQUIRIES
Member Relations Officer, Energy Chamber: Jodine Abhiram
(868) 6-ENERGY • member-relations@energy.tt

Stay up to date. Follow us on social media: @ttenergychamber linkedin.com/company/the-energy-chamber-of-trinidad-and-tobago fb.com/ttenergychamber

Back to Top

opinion

The shades of green —addressing the unintended consequences of clean energy production

Mark Loquan | Contributor

At the close of the 19th century, the city of New York was grappling with an urban crisis. With thousands of horses pulling carriages and cabs through its streets every day, millions of pounds of manure were being produced and deposited along its thoroughfares. Mechanisms for collecting and disposing of this waste could not keep pace, leading to a host of mobility, health, and sanitation issues.

So it was that when Henry Ford's affordable automobile was introduced some years later, the innovation was hailed as a solution for cleaning up the transportation sector. Cars replaced horses, and manure became a problem of the past. At the time, however, it was not foreseen that within a century, that solution would contribute to a world-scale climate crisis.

This story is worth remembering as we enter a new age of energy. Today, we are looking to harness renewable forms of energy to help halt and reverse climate change. However, just as the automobile replaced old challenges with new ones, there are trade-offs and externalities of clean-energy value chains that we need to address before they evolve into problems. Early identification of risks and challenges allows us to find pre-emptive solutions and create commercial opportunities in the process.

The challenge of waste

By definition, renewable energy is inexhaustible in supply—any sunlight, wind, wave energy, and geothermal heat we use are replenished through natural processes. However, the infrastructure with which we capture and convert those forms of energy has a finite lifespan.

Solar panels, wind and water turbines, pumps and generators are built using materials and mechanical parts that inevitably deteriorate and lose efficiency. The narratives around renewable power seldom speak of the waste generated when those parts or entire systems are replaced or decommissioned, or the emissions produced during their manufacture.

Consider solar arrays as an example. The average lifespan of a solar panel is around thirty years. On paper, this seems to be a long enough timeframe to make waste from the industry manageable. However, as with many other appliances and devices we use today, consumers do not always run solar systems through their full lifespan. Technology and innovation are making panels more efficient, affordable, and accessible, and tax incentives are encouraging greater uptake. Not only are more consumers entering the market, but existing users are seeing practical benefit and economic merit in replacing their older systems earlier than necessary.

In 2016, the International Renewable Energy Agency (IRENA) had projected that global waste from solar PV panels could top seventy-eight million tonnes by 2050. However, based on the rate of turnover and adoption we see today, other researchers suggest we will generate that volume much sooner.

One challenge with that waste is that most solar PV modules are comprised of glass which often cannot be recycled because of impurities. Moreover, when dumped into landfills, toxic chemicals such as lead and cadmium can be leached out of the modules into soil and groundwater sources.

To the extent that they can be recycled, there are additional challenges that make the process burdensome. For instance, the fact that most panels have long lifespans and are composed of low-value glass has disincentivised investment in recycling infrastructure. There are consequently few facilities that provide that service, making the cost of recycling high. In the U.S., it would cost around US$25 to recycle a solar PV panel, while it would only cost US$1–2 to transport it to a landfill.

That said, the challenge of solar waste management presents a lucrative opportunity for investors and innovators. Rystad

Energy has predicted that recyclable materials from PV panels at the end of their lifespan will be worth more than US$2.7 billion in 2030—up from only US$170 million in 2022—and approach US$80 billion by 2050. This is because of increasing demand for panels and higher demand for their mineral and material inputs. Entrepreneurship in end-of-life management of solar panels can therefore generate significant economic returns and employment opportunities.

The same holds true for other renewable energy technologies. Researchers estimate the U.S. will have more than 720,000 tonnes of wind turbine blade material to dispose of over the next twenty years. These blades, usually made from a mix of resin and fiberglass, have little resale value, and are difficult and expensive to transport to landfills. There are, therefore, valuable commercial opportunities for start-up companies exploring options for recycling these blades.

Wildlife can also be impacted when renewable technologies are deployed. For example, generating power using watercourses involves construction of large hydro-dams.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Impact on the biosphere

While the problem of waste occurs at the end of the clean-energy value chain, there are also threats at the top. Production of renewable energy infrastructure depends heavily on mineral inputs such as lithium, cobalt, copper, and neodymium, and there are environmental concerns around mining these minerals.

82% of the world's mining areas target materials that are critical for renewable energy production. However, ironically, the mining industry is notorious for its environmental footprint. In China—where most of the world's neodymium is mined for creation of the magnets used in wind turbines, electric motors, and electronics—the high environmental cost of extraction of the mineral can be seen in the Baotou Lake. Toxic sludge from the mining process, including radioactive clay, are dumped into the lake, with unquantified but irrefutable impacts on surrounding communities and landscapes. To treat with this issue, stricter regulations will be needed in mining jurisdictions to ensure companies treat and properly dispose of their waste and remediate the environment around mining sites.

Mining can also affect endangered species, as a percentage of the world's mining sites overlaps with areas that are protected for their biodiversity. As demand for renewables increases, so too will the footprint and intensity of mining, and the possibility of greater encroachment on sensitive habitats. Governments and permitting agencies will need to look carefully at protected areas to ensure mining is minimally disruptive, if not prohibited altogether, in such spaces.

Wildlife can also be impacted when renewable technologies are actually deployed. For example, generating power using watercourses involves construction of large hydro-dams. These dams sometimes obstruct migratory routes of fish, and the passageways around their turbine blades can be piscine death traps. The same is true of wind farms, where spinning blades can disrupt avian flight paths and improper siting of offshore infrastructure could lead to infringement on aquatic ecosystems.

Prefeasibility studies of potential deployment sites, as well as research and innovation, are critical to reducing these unintended consequences. For example, one engineering company in the U.S. has already pioneered a blunt-edged water turbine that is fish-friendly and is working on developing a distributed system of smaller dams—based on biomimicry of beaver structures—to replace larger and more disruptive hydropower facilities.

Managing impact

There is no question that we need to continue investing in and expanding renewable energy technologies. No other solution addresses the climate crisis quite as effectively as the clean-energy transition. At the same time, we cannot ignore that it is not a perfect solution, and there are many actual and potential environmental ills associated with these technologies.

Fortunately, early identification of these problems can allow sufficient investment and research attention to be paid to those areas, so that the negative externalities can be properly managed before they spiral out of control. The invention of new components that do not require as many mineral inputs; innovations designed to reduce the footprint and invasiveness of clean energy structures; and the creation of circular economies around renewables to reduce, reuse and recycle materials, are just a few examples of strategies currently being used to minimise the impact of the clean-energy transition. For the prescient and savvy entrepreneur, these strategies can also lead to profitable economic opportunities.

Ultimately, in whatever approach we take to clean up our energy production, we must strive to find balance and ensure we do not attempt to solve one problem with another.

Back to Top

opinion

EU's Carbon Border Adjustment Mechanism (CBAM) and renewable energy

Zé Alves-Pereira

Isn't carbon leakage already addressed by EU's Emissions Trading System (ETS)?

The ETS is the world's first international emissions trading scheme and the EU's flagship policy to combat climate change. It sets a cap on the amount of greenhouse gas emissions that can be released from industrial installations in certain sectors. Allowances must be bought on the ETS trading market, though a certain number of free allowances is distributed to prevent carbon leakage. That system has been effective in addressing the risk of leakage, but it also dampens the incentive to invest in greener production at home and abroad. The CBAM will progressively become an alternative to this. Under the EU's new proposal for a revised ETS, however, the number of free allowances for all sectors will decline over time so that the ETS can have maximum impact in fulfilling our ambitious climate goals. Furthermore, for the CBAM sectors, the free allowances will gradually be phased out as from 2026.

Zé Alves-Pereira | Contributor

In 2019, the European Union imported 830 million dollars of ammonia[1] from different parts of the world. Trinidad and Tobago supplied 16% of this amount making it the third largest exporter of ammonia to the EU. This situation remained unchanged in 2021 but due to Russia's unprovoked war in Ukraine, Trinidad and Tobago would most likely increase its share of export of ammonia to the EU. This is because Russia had been by far the largest trader of ammonia to the EU supplying 35% of total imports. However, war sanctions will have a negative impact on this trade position.

To minimise Russia's imports decline, by July 2022 the EU Council has issued a regulation with the purpose of granting the temporary suspension of the common customs tariff duties on goods used to produce nitrogen fertilisers, namely ammonia. This is good for Algeria, Trinidad and Tobago, Ukraine, and other countries, though the vast majority are already benefiting from tax exemptions via trade with the EU.

This situation may substantially change in the future when the EU's Carbon Border Adjustment Mechanism (CBAM) enters in force. The CBAM is a climate measure that is intended to prevent the risk of carbon leakage and support the EU's increased ambition on climate mitigation, while ensuring WTO compatibility.

There is a strong risk of so-called "carbon leakage", i.e., companies based in the EU could move carbon-intensive production abroad to take advantage of lax standards, or EU products could be replaced by more carbon-intensive imports. Such carbon leakage can shift emissions outside of Europe and therefore seriously undermine EU and global climate efforts. The CBAM will equalise the price of carbon between domestic products and imports and ensure that the EU's climate objectives are not undermined by production relocation to countries with less ambitious policies.

Designed in compliance with World Trade Organisation (WTO) rules and other international obligations of the EU, the CBAM system will work as follows: EU importers will buy carbon certificates corresponding to the carbon price that would have been paid, had the goods been produced under the EU's carbon pricing rules. Conversely, once a non-EU producer can show that they have already paid a price for the carbon used in the production of the imported goods in a third country, the corresponding cost can be fully deducted for the EU importer. The CBAM will help reduce the risk of carbon leakage by encouraging producers in non-EU countries to green their production processes.

CBAMs are already in place in some regions around the world, such as California, where an adjustment is applied to certain imports of electricity. A number of countries such as Canada and Japan are planning similar initiatives.

To provide businesses and other countries with legal certainty and stability, the CBAM will be phased in gradually and will initially apply only to a selected number of goods at high risk of carbon leakage: iron and steel, cement, fertiliser, aluminium, and electricity generation. A reporting system will apply from 2023 for those products with the objective of facilitating a smooth roll out and to facilitate dialogue with third countries. Importers will start paying a financial adjustment in 2026.

This means that grey products from carbon-intensive production will be substantially penalised against green products. Example: T&T exports to the EU of grey ammonia produced from natural gas will pay taxes under the CBAM, whereas green ammonia produced from renewable energy will be exempted.

This is an opportunity for Trinidad and Tobago to seriously commit to renewable energy if it wants to remain a valid contender on the energy market. It is not necessary to leave the energy sector and change the economic model—åsimply recycle the attitude towards energy production! Companies such as NGC, BP, or Shell know this already.

The EU delegation in Port of Spain is currently funding technical assistance to the MEEI, including other important stakeholders such as MoPU and MPD, for the development of a Draft Strategy setting the path for wind energy generation in Trinidad and Tobago. This will be followed by a Wind Resources Assessment Programme. If there is adequate wind blowing, as seems to be the case, the next step could be major investments in onshore and offshore wind farms. Partners such as the EU, the EIB, the IDB, and other international financial institutions are eager to provide funding for clean-energy initiatives. Governments should definitely engage in implementing their National Determined Contributions (NDC) pledged under the Paris Agreement.

Being environmentally and economically viable is possible. The overall objective is to leave a planet that is safe and sustainable for our children and grandchildren. The time to act is now.

[1] https://wits.worldbank.org/trade/comtrade/en/country/EUN/year/2019/tradeflow/Imports/partner/ALL/product/281410

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

opinion

From ideas to action

Jerome Dookie | Contributor

Chairman's remarks at the Caribbean Sustainable Energy Conference

I am delighted to welcome you to our annual Caribbean Sustainable Energy Conference. This is the event where we really get into the details of the energy transition and what companies, governments and other stakeholders need to do to meet the challenge of providing the world with secure, affordable, low carbon electricity, fuels and petrochemicals.

We have themed this year's conference "From Ideas to Action" because we want the next three days to focus on the actions that we need to take to meet this challenge.

Now, I know over the next three days the conversations may tend to get very detailed and technical, especially when I see the high quality of speakers lined up for the various panels. However, I always like to start with the basics. For us in Trinidad and Tobago, the energy transition is both a necessity and an opportunity. The fact is that we simply must adapt to a changing world around us, but our wide range of natural resources and our wealth of talent, position us somewhat uniquely for the journey ahead.

There has been a lot going on in the sustainable energy space in the Caribbean over the past year. It is great news that we have broken ground on the first major grid-scale solar project here in Trinidad—this is going to be the largest solar project in the Caribbean region. There have also been many small-scale solar projects executed around the country, many with UNDP and EU funding. In the wider region, we have seen some progress with geothermal energy in Dominica and some exciting green hydrogen projects in Barbados.

In Trinidad, we have also seen the publication of a green hydrogen road map, funded by the IDB, and a pathway to wind generation report, funded by the EU. We held a naming ceremony for the country's first methanol-fueled tanker, signalling a new era in shipping.

As recent as last week, our Prime Minister again highlighted the unique opportunity for Trinidad and Tobago to become a methanol fuelling hub. This would allow us to claim our share of a global marine fuel market worth approximately 105 billion US dollars, and in the process increase the demand for maritime services, generating employment and economic opportunities locally.

So there has been a lot going on, and many encouraging initiatives, but the fact is that we have barely scratched the surface to meet the challenge of net zero.

The challenge is very different in countries across the region. The pathway to net zero in a highly industrialised economy, like Trinidad and Tobago, is very different to the pathway for small tourism dominated economies in the eastern Caribbean. Nevertheless, the Energy Chamber firmly believes that addressing this challenge on a regional level just makes good sense. There are limited resources available in the region and wherever possible we should be pooling our expertise, knowledge and skills.

In the Energy Chamber we have championed the full implementation of the CARICOM Single Market and Economy and the integration of energy service markets in the region. It is important that companies, skilled workers and equipment are able to move freely around the region to implement all of the projects, big and small, that are needed to drive the energy transition. Our members in the engineering, contracting and services sectors here in Trinidad have a key role to play in implementing projects throughout the Caribbean.

> As we move from ideas to action and a lower carbon, lower emission future, these are interesting and exciting times for the energy sector in Trinidad and Tobago and in the wider region as well.

In terms of capital, this is available both regionally and internationally to help finance the energy transition, but the key is to unlock that financing in a way that can actually be deployed in the region. This will likely require new approaches to financing projects, including public-private partnerships and the involvement of international development banks.

If this capital is to be deployed to support the energy transition, we do, however, need to have the right policy environment. In Trinidad and Tobago, for example, there are companies and even individuals who are anxious to install solar panels on their rooftops. However, until the legislation is changed to allow people to easily license solar systems and connect them to the grid, the reality is that these investments are not going to be made. We know that there are legislative changes in the pipeline, and we urge the Government to accelerate the implementation of these changes.

The addition of renewable energy onto the grid in Trinidad and Tobago is something which the Energy Chamber has championed for many years, especially through past iterations of this conference. Apart from the climate change impacts, it also just makes good economic sense for Trinidad and Tobago to divert as much natural gas as possible from electricity generation to the foreign exchange earning LNG and petrochemical sectors.

The pattern of electricity consumption in Trinidad and Tobago is concerning and not sustainable. Domestic electricity consumption has increased by 31% over the past decade, while industrial consumption has declined by 20% over the same period. With 10% of our natural gas supply now going into electricity generation, and much of that not contributing to economic output and wealth creation, this is a pattern that simply must be changed.

This is why the Energy Chamber has been supportive, in principle, of the electricity rate review process. We believe it is important though, that our recommendations be read in their entirety, because there are a number of factors to be addressed, including inefficiencies in power generation. Energy efficiency must be a mantra for everyone in Trinidad and Tobago—as it has been for a long time for many of our Caribbean neighbours. We are facing a serious shortfall in natural gas supply to our wealth generating industrial sectors, and we cannot be wasteful in the generation and consumption of electricity.

This conference is not, however, just about electricity. We need to look at the entire energy system, including transportation and industry. In terms of the latter, it is fairly well-known that our petrochemical industry—especially our ammonia plants - are major point sources for carbon dioxide. What is not as well-known is that for almost two decades, we have already been capturing large volumes of this CO_2 for use in our methanol and downstream fertiliser production.

Over the course of this conference, we will discuss technologies to reduce emissions across the energy sector and to capture and sequester carbon. We will hear about opportunities around grey, blue and green hydrogen, but as I hinted earlier, I will leave that to the more capable minds to occupy this stage over these couple days.

We also have a tour of Point Lisas on the third and final day, which will allow delegates to better understand the technologies across the industry and see the process plants first-hand. In the Energy Chamber we always believe in adopting a practical approach and, in keeping with the theme of this conference, ensuring that ideas can indeed be translated into tangible action.

Regarding transportation, we have had a lot of discussion in past editions of this conference on land transport and especially on electric vehicles. This year, we are placing a spotlight on the marine transport sector and how we can reduce the carbon footprint of the global shipping industry. The cruise ship industry, so important to the Caribbean, is actively exploring ways of reducing its carbon footprint. Again referencing the Prime Minister's comments last week—we believe that Trinidad and Tobago can play a major role in making that a reality.

In conclusion, as we move from ideas to action and a lower carbon, lower emission future, these are interesting and exciting times for the energy sector in Trinidad and Tobago and in the wider region as well. There are many opportunities, but in a rapidly changing world, if we move too slowly, these same opportunities, and the commodities on which our economies depend, can easily become liabilities. Let us therefore move with a sense of urgency to ensure that while we act responsibly in preserving the world for future generations, we also secure the economic well-being of our people. This is not a race in which we can afford to be left behind.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

> Energy efficiency must be a mantra for everyone in Trinidad and Tobago—as it has been for a long time in many of our Caribbean neighbours.

Back to Top

Rystad Energy: energy services sector set to grow to $1 trillion in 2025

Staff Writer | Energy Chamber

Rystad Energy expects the global market for oil and gas contractors to rise to a peak of $1 trillion in 2025 and remain at high levels for several years thereafter. Helped by strong growth in the midstream part of the industry to liquefy, transport, and re-gasify natural gas, overall oil and gas spending will stay above $920 billion annually on average for the 2022–2028 period.

Despite the risk that another downturn cycle in oil and gas may occur after 2025, oilfield service suppliers should be able to balance out the downturn by branching out into other parts of the wider energy market—and in so doing, expand the overall target market for contractors. The key for suppliers is to continue chasing obvious opportunities within geothermal energy, hydrogen, offshore wind, as well as carbon capture, utilisation, and storage.

Together with oilfield services, this expansion into other energy areas could provide a $1 trillion market for suppliers by 2025, which could be sustained for several years after that. Breaking down the various service segments among the oil and gas suppliers reveals that all segments will grow in nominal terms, led by suppliers targeting equipment and materials and those providing operations and maintenance services.

While we expect the next seven years to provide a strong market for energy services, companies still have to improve their economics to make it a feast. Luckily, overall utilisation is improving rapidly as suppliers are careful not to overinvest in more capacity as rigs, vessels, plants, and other units in the supply chain are affected by natural wear and tear. The result is better pricing for suppliers—the past twelve months have driven up prices for offshore rigs, land rigs, frac fleets, proppant, OCTG, vessels, and subsea infrastructure to levels not seen in a decade.

Last year was a turning point with the post-pandemic recovery, record-high gas prices, and strong oil prices, allowing oil and gas companies to lift their oil and gas investments by 20%. Energy-security concerns prompted petroleum producers to raise production and contract goods and services from suppliers, and the oilfield service industry was quickly sold out of fracking fleets, rigs, and casing and tubing steel. The prices that suppliers could charge surged by double-digit percentages, allowing EBITDA (earnings before interest, taxes, depreciation, and amortisation—a key metric for measuring profitability among companies) margins to climb. After the rebound in 2022, we are entering a very promising 2023, with potential for 13% growth both for oil and gas investments and 10% for low-carbon investments.

Factors in the famine

The oilfield service industry has had a rocky ride since 2014. An oversupply of oil volumes driven by the U.S. shale revolution, a volume war led by OPEC, Russia flooding the market, and a two-year long pandemic, all contributed to depress oil prices and upstream spending. As a result, oil and gas suppliers did not get the several subsequent years of growth they really needed to convert their operations into a profitable healthy business in the new market environment. From its peak in 2014 to the trough in 2021, revenue fell almost 60% for the biggest contractors. Despite some optimism in 2017–19, the market did not really take off, as oil and gas producers maintained strict cash discipline and some segments in the oil and gas supply chain struggled with continued overcapacity.

Some regions and segments saw pockets of lucrative markets in the 2014–21 period, but overall, on a corporate level, global players have not been able to turn the tide. Analysing the largest publicly listed service players shows that it was not only revenues that were depressed for seven years; overall earnings, operational cash flow, margins, and stock performance have also been challenging.

Suppliers have not been able to cut costs, adjust capacity, and cope with their debt to a degree that would allow them to turn lower market activity into a profitable business. Companies have been clinging on to their assets, hoping to boost their market share quickly in a future-market recovery. This recovery has been delayed—until now.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Boosting the global geothermal market requires increased awareness and greater collaboration

Staff Writer | Energy Chamber

Alongside the increasing demand for electricity being driven by economic growth, the global demand for sustainable heat is also increasing. This demand has led to a growing trend in the use of geothermal resources for heating and cooling applications where technically and economically feasible.

Since 2000, the geothermal sector has grown at an average rate of around 3.5% annually to reach an installed capacity of 16 gigawatts electrical in 2021. There was a slight acceleration in growth of around 5% between 2015 and 2021, but this still accounted for a mere 0.5% of global installed renewable electricity capacity. Meanwhile, geothermal heating and cooling applications grew faster, by around 9% between 2015 and 2020 to reach 107 gigawatts thermal in 2020, representing around 3% of the global installed renewable heating and cooling capacity.

To support countries in unlocking the underutilised geothermal potential and promote its widespread deployment, IRENA established the Global Geothermal Alliance (GGA) in 2015 as a platform for enhancing dialogue, cooperation, and coordinated action to increase the share of installed geothermal electricity and heat generation worldwide. The agency also published in February of this year, a report titled "Global Geothermal Market and Technology Assessment", developed in collaboration with the International Geothermal Association, to shed light on the geothermal sector and identify key trends likely to shape the market growth in the near future.

During its 25th Council in Abu Dhabi in late May 2023, IRENA organised a session to share the key findings of the report and promote dialogue on the critical role of geothermal in the energy transition. Speakers discussed recent trends in the geothermal sector, challenges hindering its development, potential solutions, and opportunities for growing the market worldwide.

"Geothermal energy potential is still largely untapped across different regions," said Gurbuz Gonul, Director of Country Engagement and Partnerships, IRENA. "International collaboration will boost its deployment, including sharing global best practices and insights for the benefit of the geothermal sector. In this context, IRENA is coordinating the Global Geothermal Alliance, a platform of enhancing dialogue, cooperation, and coordinated action among stakeholders to accelerate geothermal deployment."

In recent years, the geothermal market growth has been driven by developments in Indonesia, Kenya, Türkiye, and the United States. Although data on new plants commissioned in 2021 shows that geothermal energy competitively generated electricity at a levelised cost of electricity of USD 0.068/kWh, countries still face challenges in attracting investments to geothermal development. This problem is due to higher perceived risks during the early phases of exploration as well as higher upfront capital expenditures, compared with other energy technologies. Other challenges are related to policy and regulatory frameworks, institutional and technical expertise, and technological advancements, which affect both electricity generation and heating and cooling.

The report shows that legal and regulatory frameworks, incentives, and risk mitigation instruments are key enablers for geothermal market growth. Risk mitigation schemes in particular help to address the resource risk associated with geothermal development in the early stages of development. These schemes are applied in different ways depending on the level of development of geothermal markets. In nascent markets, public funds are mainly used for risk mitigation, while resource risk insurance schemes are commonly applied in mature markets where a portfolio of geothermal projects exists.

In recent years, several trends that are likely to lead to widespread expansion in geothermal development and utilisation have emerged. For instance, due to their widespread availability, there has been an uptake in the development and utilisation of low-medium temperature geothermal resources. A key driver for the development of low-medium temperature resources is the advancement in the technologies for utilising these resources, such as the binary cycle technologies for electricity generation as well as the growing need for sustainable and secure supply of energy for heating and cooling.

With binary technology, geothermal heat is used to boil a working fluid, usually an organic compound with a low boiling point. The working fluid is vaporised in a heat exchanger and used to turn a turbine. The water is then injected back into the ground to be reheated. Binary technology allows geothermal power plants to be operated in a flexible way, which is ideal for the stabilisation of grids with high penetration of variable renewable electricity sources. As a result, the deployment of binary power plants has increased to over 50% for new plants commissioned between 2015 and 2021, compared to only 12% before 2000.

At the same time, the use of geothermal for heating and cooling applications for agri-food and industry, as well as for district heating and cooling among others is also growing. Driven by a decarbonisation agenda and the need to secure domestic sources of energy, countries are likely to increase the development and utilisation of low-medium temperature resources.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Back to Top

efficiency

Doubling global pace of energy-efficiency progress by 2030 is a key step in efforts to reach net-zero emissions

Staff Writer | Energy Chamber

The International Energy Agency (IEA) brought together global energy and climate leaders in France for a major ministerial meeting on energy efficiency, with new IEA analysis showing that the world needs to double progress on efficiency between now and 2030 as part of efforts to improve energy security and affordability while keeping the goal of limiting global warming to 1.5°C within reach.

The IEA's 8th Annual Global Conference on Energy Efficiency convened seven hundred people from more than eighty countries, including over thirty ministers and fifty CEOs, in Versailles, to address how to accelerate energy efficiency improvements. The event was co-hosted by France's Minister for Energy Transition Agnès Pannier-Runacher and IEA Executive Director Fatih Birol and was organised in partnership with Schneider Electric.

A special briefing report published for the global conference—Energy Efficiency: The Decade for Action—highlights that ramping up annual energy efficiency progress from 2.2% today to over 4% annually by 2030 would deliver vital reductions in greenhouse gas emissions and at the same time create jobs, expand energy access, reduce energy bills, decrease air pollution, and diminish countries' reliance on fossil fuel imports, among other social and economic benefits.

Energy efficiency investment in 2023 is expected to reach record levels, despite a slowdown in year-on-year growth as the high cost of capital weighs heavily on potential new projects. Under current expected and announced policies, efficiency-related investment is projected to rise by a further 50%. However, to see annual progress double, investments in the sector must increase from US$600 billion today to over US$1.8 trillion by 2030.

> "Today, we are seeing strong momentum behind energy efficiency. Countries representing over 70% of the world's energy consumption have introduced new or improved efficiency policies since the global energy crisis began over a year ago. We now need to push into a higher gear and double energy efficiency progress by the end of this decade. I believe this major global conference, which I'm delighted to co-host with French Minister Pannier-Runacher, can be a vital impetus for accelerating ambition and action."

IEA Executive Director Fatih Birol said: "Today, we are seeing strong momentum behind energy efficiency. Countries representing over 70% of the world's energy consumption have introduced new or improved efficiency policies since the global energy crisis began over a year ago. We now need to push into a higher gear and double energy efficiency progress by the end of this decade. I believe this major global conference, which I'm delighted to co-host with French Minister Pannier-Runacher, can be a vital impetus for accelerating ambition and action."

France's Minister for Energy Transition Agnès Pannier-Runacher said: "Energy savings and energy efficiency are the most simple and obvious responses to both the energy and the climate crises. They are one of the most crucial actions for clean energy transitions, and that is why I am honoured to co-host this important global conference. I am pleased to be working closely with the International Energy Agency to strengthen the focus on energy efficiency worldwide."

Chairman of Schneider Electric Jean-Pascal Tricoire said: "Optimising how we consume energy is the priority of how we tackle the climate-and-energy crisis. We have all the ingredients. What we don't have is time. We simply can't let more time go by before we deploy the power of electrification and digital energy-efficiency technologies to the fullest."

Policy will have a critical role to play in whether the world delivers on energy efficiency in the short, medium, and long term. The RePowerEU plan in Europe, the Inflation Reduction Act in the United States, and Japan's Green Transformation (GX) initiative are a few examples of policy makers making renewed efforts to deliver on the energy-efficiency agenda. Various emerging and developing economies—including India, Chile, and South Africa—have enacted progressive measures to bring energy efficiency to the fore.

The new IEA report shows how doubling energy efficiency efforts can also deliver positive knock-on effects for society. Today, the sector employs tens of millions of people worldwide. With increased ambition, energy efficiency activities could lead to another twelve million jobs globally by 2030. Importantly, more efficient and lower-energy demand supports faster progress towards universal access to modern and affordable energy in emerging and developing economies. The shift toward efficient electrification through the phasing out of the traditional burning of biomass such as charcoal and wood for heating and cooking also brings multiple benefits in terms of improved air quality and health.

To continue its support for stronger action on efficiency, the IEA has developed and updated its policy toolkit for governments. The toolkit comprises two parts: the first is ten strategic principles, based on the recommendations of the Global Commission for Urgent Action on Energy Efficiency, that bring together key learnings from global experience on how to maximise the impact of all energy efficiency policies and programmes. The second is a set of sectoral policy packages that highlight key policies available to governments, and how they can be integrated into an effective coherent suite of policies and actions to deliver faster and stronger efficiency gains. The 2023 policy toolkit includes two new policy packages on clean cooking and finance, as well as updates to the existing packages.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Back to Top

Maritime industry needs to embrace a robust safety culture to successfully tackle transformations, says DNV

Rules, procedures, and guidelines continue to be essential elements, but they mean less if they are not embraced by crew, or if they don't become ingrained in the safety culture of a company. This will lead to a deeper awareness of the safety hurdles and a more comprehensive understanding of new technologies.

Staff Writer | Energy Chamber

A new report from DNV and Lloyd's List Intelligence, "Maritime safety trends 2012-2022: Advancing a culture of safety in a changing maritime landscape", found a surge in the number of safety incidents involving machinery damage or failure.

With incidents on the rise, more needs to be done to address safety, particularly as the industry faces uncertainties related to decarbonisation and digitalisation. The analysis found that the overall number of safety incidents increased by 9% in 2022, driven by a 12% increase in incidents involving machine damage or failure. This highlights the importance of developing a better understanding of new technologies and placing equal value on human, organisational, and technological elements, helping to cultivate a robust safety culture in maritime companies and within the industry.

"New technologies, alternative fuels, and more advanced digital systems offer many solutions, but they also bring increased uncertainty and new risks," said Knut Ørbeck-Nilssen, CEO Maritime, DNV. "Rules, procedures, and guidelines continue to be essential elements, but they mean less if they are not embraced by crew, or if they don't become ingrained in the safety culture of a company. This will lead to a deeper awareness of the safety hurdles and a more comprehensive understanding of new technologies."

Maritime stakeholders are encouraged to collaborate transparently in the safe transition to new fuels and technologies by contributing to the development of training programmes that are safe, reliable, and realistic. Improved safety can also be achieved through more proactive investment in the psychological and physical welfare of a ship's crew and onshore workers.

The importance of knowledge, sharing, and collaboration are also highlighted in the report. The transition to new engine types and new fuels may lead to machine failure and accidents, and shipping companies should share what they have learnt from these incidents so that the whole industry can achieve improved safety standards.

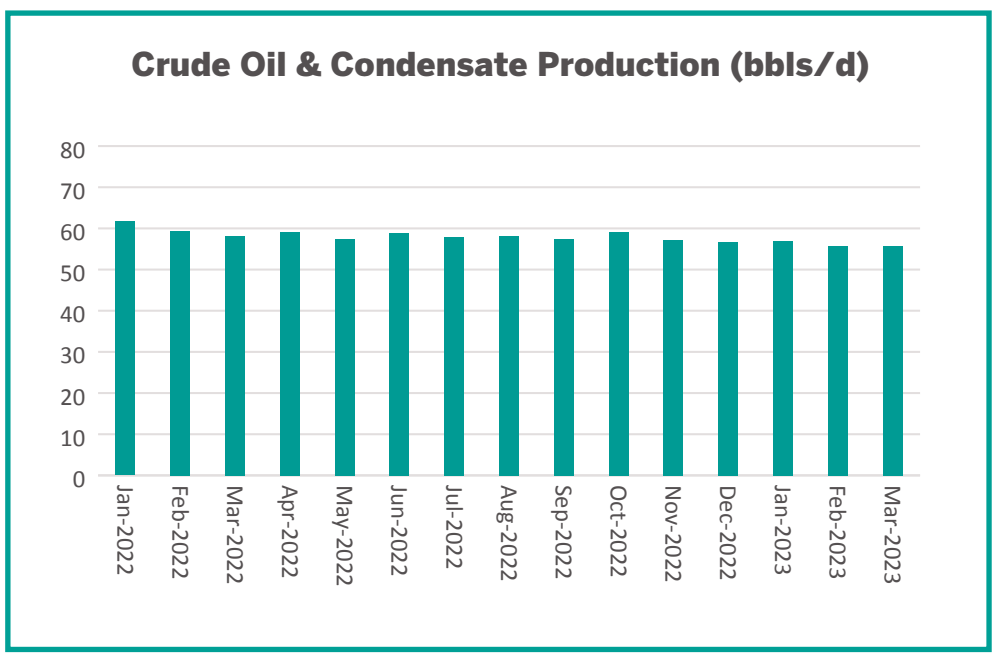
"Fundamentally, safe shipping relies on good leadership. We urge all players in the industry to put aside their competitive instincts and contribute to improved safety standards for all. This will ensure that every mistake can be learned from, and we all continue to maintain progress while—much more importantly—minimising the risk to human life and the environment," said Ørbeck-Nilssen.

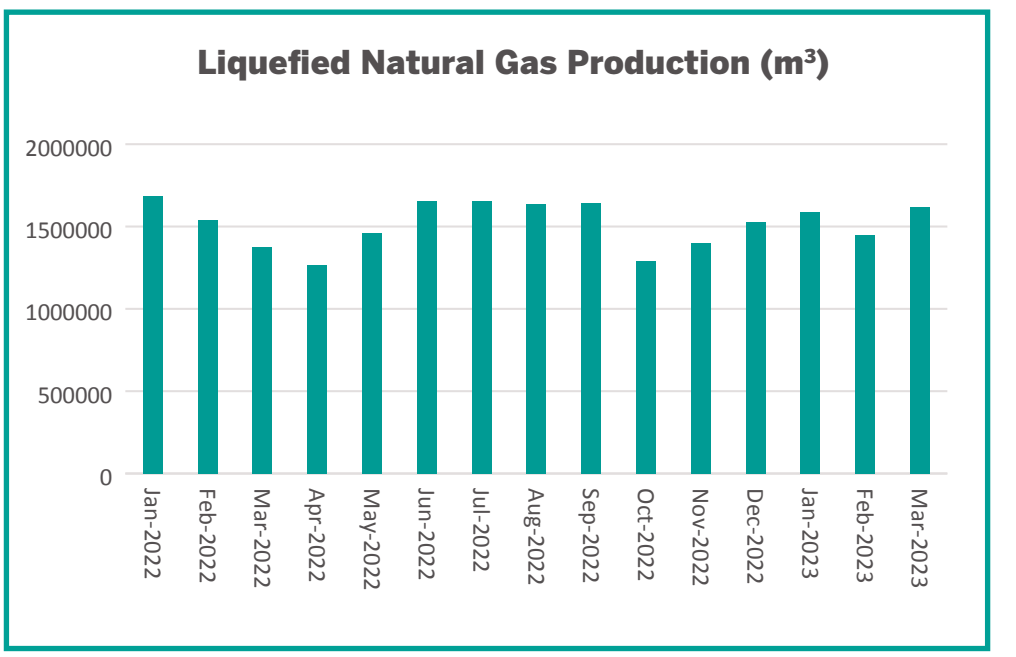
Learn more and have your say online:
fb.com/ttenergychamber · #energynow

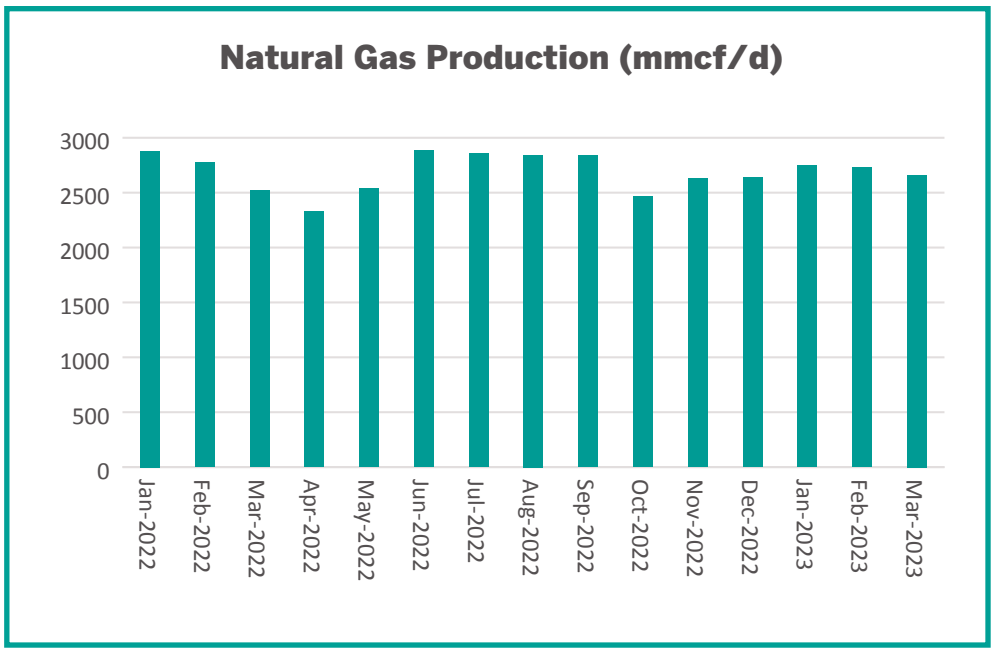
Back to Top

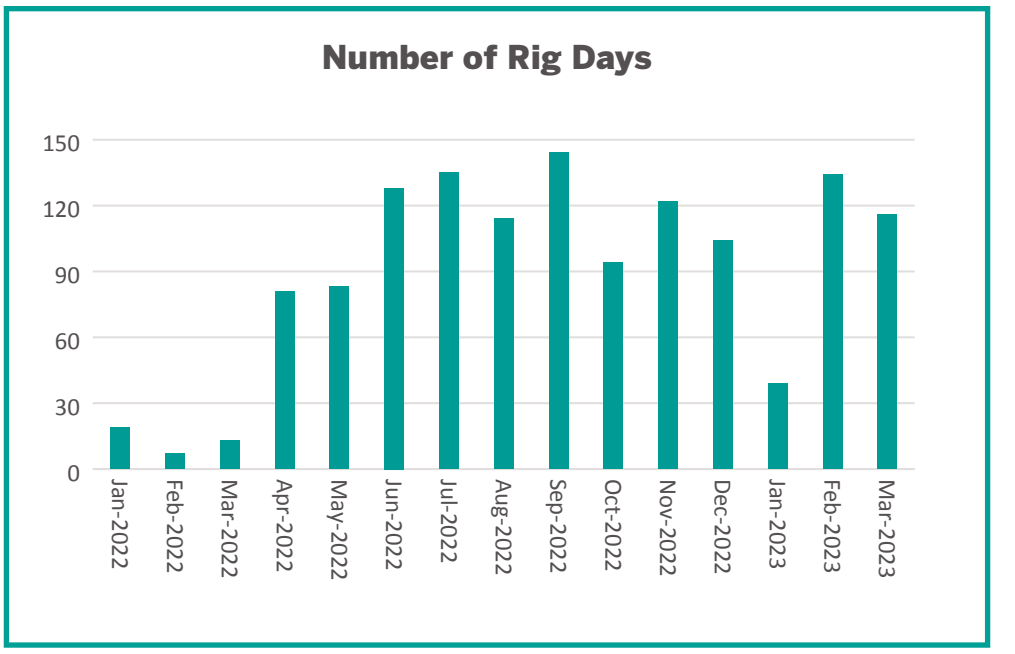
energy update

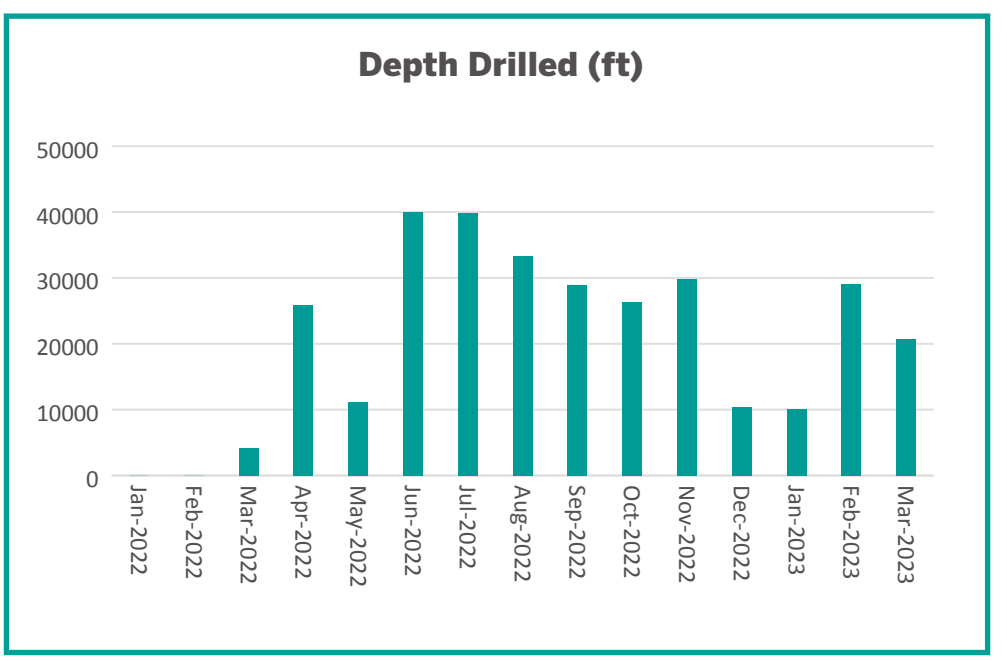
Monthly Review





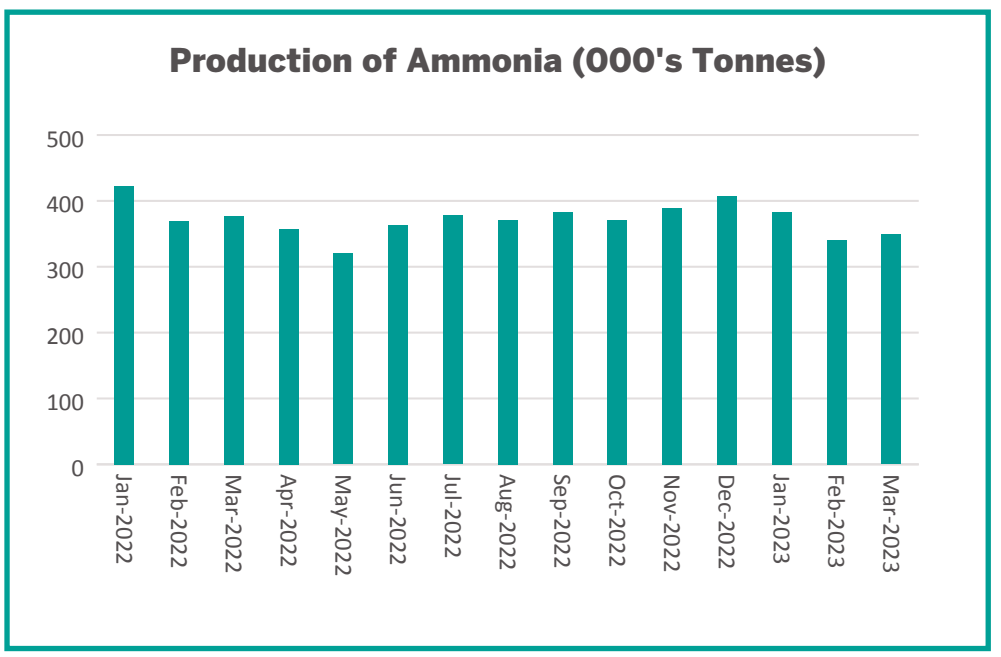


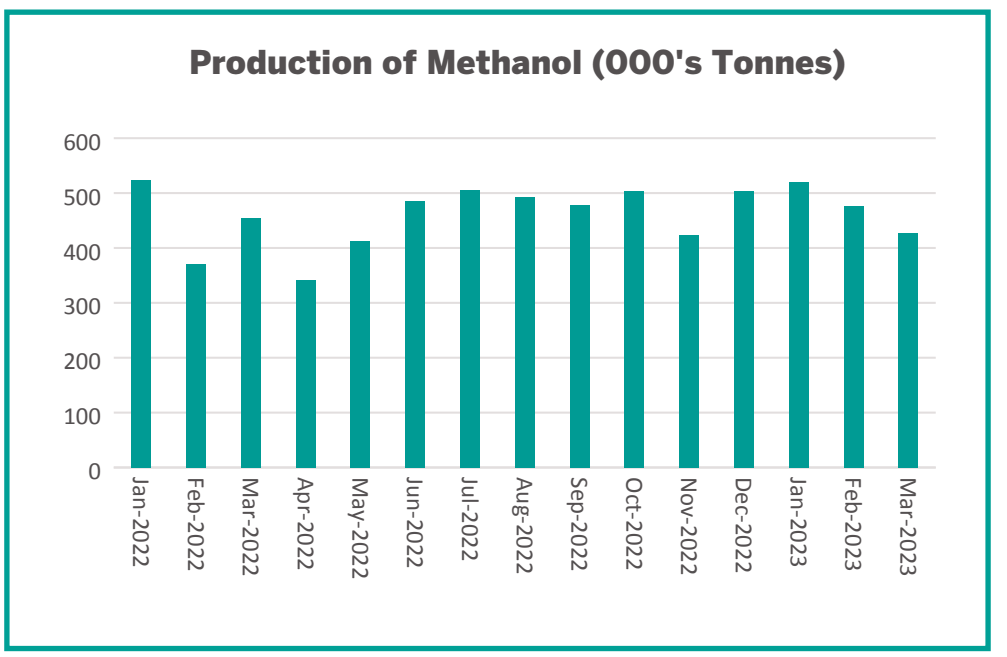


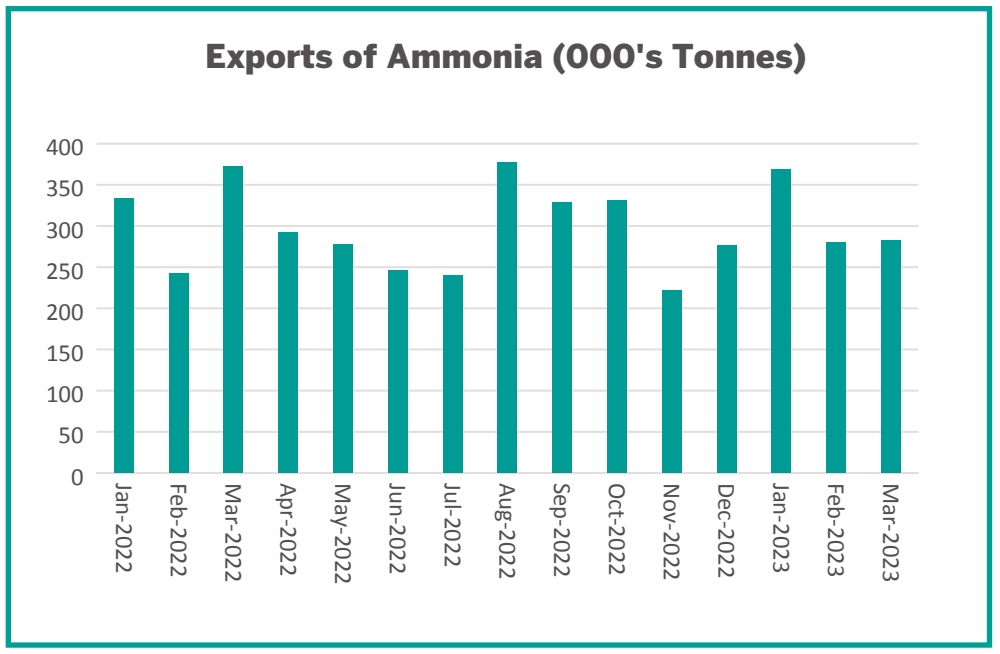


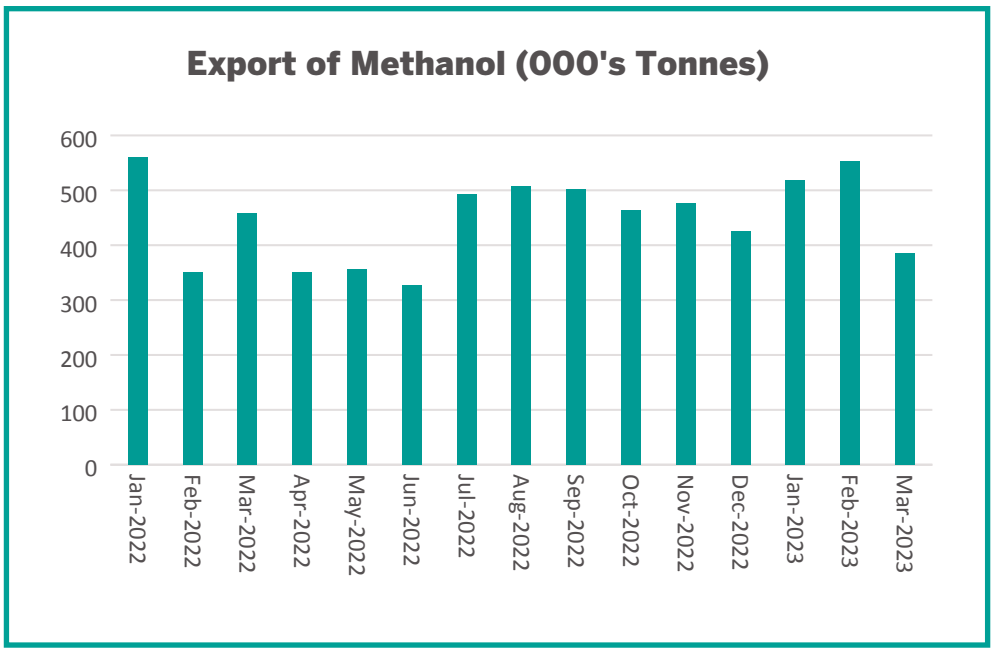
Back to Top

Monthly Review









Back to Top

efficiency

Simplest energy-saving tips for using air conditioners

Staff Writer | Energy Chamber

At what temperature should the air conditioner be set to get the best cooling effect during the heat season, while still using the least amount of electricity?

Households place a high demand on air conditioners because of the heat. The air conditioner will not provide the best cooling effect and will also result in significant power loss if not used properly.

So, what is the most efficient and cost-effective way to use an air conditioner?

Don't leave the air conditioner on all day

Experts advise against using air conditioning constantly because it can harm our skin and respiratory systems, especially on hot days when the humidity is low.

In addition, letting the air conditioner run continuously for the day will shorten its lifespan by wearing out the internal components.

Only use the air conditioner when absolutely necessary, such as during naps or at night. For the rest of the time, we recommend using fans to reduce monthly electricity costs.

Don't continuously turn the air conditioner on and off

Manufacturers advise that frequently turning on and off an air conditioner not only increases electricity costs, but also hastens the device's deterioration over time. The compressor and fan of the air conditioner must both be turned on for the appliance to begin operating.

> Most users believe that turning off the air conditioner with the remote is sufficient, but depending on the product line, the air conditioner can still operate in moderation and use about 15W even if turned off with only the remote.

All air conditioners today, according to manufacturers, have a temperature sensor system, which means that when the temperature in a room reaches the level set on the remote, the appliance will turn off automatically, thus conserving electricity.

Additionally, manufacturers suggest turning off the air conditioner about thirty minutes before leaving a room because it not only helps the room warm up gradually, but also lessens the impact of a sudden departure from the house on our bodies.

Use the on and off timer feature

Most air conditioners in use today have timers to automatically turn them on and off, but very few people use this incredibly useful feature.

We should use the on and off timer feature because our body temperature tends to drop at night or while we sleep, which can lead to colds or disrupted sleep. Not only is it good for you and your quality of sleep to have the device turn off automatically for a while, but it also significantly lowers the amount of electricity used each month.

Turn off the power switch when the air conditioner is not in use

Most users believe that turning off the air conditioner with the remote is sufficient, but depending on the product line, the air conditioner can still operate in moderation and use about 15W even if turned off with only the remote.

Therefore, you should pay attention to this if you want to reduce your electricity costs the most. To make it easy to turn on and off the air conditioner, you should install the power switch within reach.

When not in use, experts advise turning off the power switch for the air conditioner.

Proper temperature regulation

Users frequently tend to lower the thermostat as far as it can go in order to quickly cool the room. However, experts point out that the machine will use more electricity the lower the temperature is.

The ideal indoor temperature should be kept at 25° Celsius because the power consumption will be lower and the risk of experiencing thermal shock when leaving your house will be reduced the closer the indoor and outdoor temperatures are.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Carbon markets remains optimistic on pricing and political outlook, annual survey finds

Staff Writer | Energy Chamber

Carbon market participants are optimistic that ambitious reforms will continue to drive compliance market prices higher in the coming years, while voluntary carbon stakeholders are confident that the market will grow to meet increasing demand for carbon reductions, according to IETA and PwC's 18th annual GHG Market Sentiment Survey.

Despite the political turmoil of the last year and the macroeconomic uncertainty, respondents in the annual survey remain optimistic that prices for carbon permits will continue to rise steadily in the long term, though the poll revealed a slight moderation in the pace of the increase compared to last year's expectations.

Nearly three-quarters of those who expressed an opinion said the voluntary market is well-placed to meet rapidly rising demand from companies seeking to drive emissions down, as the market strives to enhance quality and oversight of projects.

The annual survey among IETA members has been undertaken by PwC and IETA every year since 2005. This year's poll was carried out in April and received responses from 187 members.

Allowance prices

European respondents expect EU Allowance (EUA) prices to average €84.40 between 2023 and 2025, compared to a current price of €85.50. This represents a 1.2% decrease in the predicted price to 2025 from last year's survey.

California Carbon Allowance (CCA) prices are predicted to average €39.23 between 2023 and 2025, a drop of 10.3% from last year's result, while values for RGA permits in the northeastern RGGI market are forecast to average €32.20, a decline of 18% from the 2022 survey's forecast.

Prices in the UK ETS are expected to average €79.22 over the next two years, compared to €85.65 in last year's poll. New Zealand participants predicted NZU prices will average €45.00, down from €51.43 a year ago.

Despite drops in short-term price expectations, the survey reflected expectations that prices will be higher in the period from 2026 to 2030, with EUAs forecast to average €100, CCAs at €51.54 and RGAs at €45.83.

"The results of the survey underline the resilience of the carbon markets, in particular compliance markets, to the economic and geopolitical shocks that it has experienced over the last twenty years," said Dirk Forrister, CEO and President of IETA.

"The findings demonstrate how market sentiment responds to political will, and that our members remain confident that carbon pricing mechanisms will grow in importance and spread to more parts of the world," Forrister added.

"This year's survey highlights the optimistic outlook for global carbon markets, with a consensus that prices will continue to rise across all emissions trading schemes surveyed," said Ian Milborrow, Sustainability Partner at PwC UK.

"While there is some caution regarding the extent of expected price increases in the short to medium term, carbon pricing initiatives will play a critical role in mitigating climate change and keeping global warming below 1.5 degrees Celsius," he added.

For the first time this year, IETA and PwC sought price forecasts for Australian Carbon Credit Units (ACCUs), and the survey predicted prices will average €43.08 in the next two years, and €55.83 between 2026 and 2030.

Respondents felt that regulators are likely to continue ramping up the ambition of their carbon pricing systems, with the EU expected to lead the way when co-legislators begin the task of setting the bloc's 2040 emissions goals later this year. Nearly half of respondents anticipate that the EU will set a reduction target of 75% or more.

Similarly, more than two-thirds of respondents expected lawmakers in California to extend the state's carbon market beyond 2030, while there remains some uncertainty over what target RGGI states will adopt for the market's next phase.

New markets have emerged in the past year in Washington state, while New York's governor recently announced the creation of a state-wide cap-and-invest system. Nearly half the survey respondents expect the New York market to begin by 2025.

Voluntary market

There has also been a decline in carbon offset price expectations compared to last year's survey. Respondents this year said they expect prices for standardised N-GEO contracts to average €20.00 between 2023 and 2025, compared to a forecast of €33.36 in last year's survey.

The survey found that 71% of respondents are confident that the market will be able to scale up supply sufficiently to meet growing demand, compared to 66% in last year's poll.

Most of those questioned said they plan to use nature-based removal credits in their offsetting strategy, especially afforestation, soil carbon and sequestration, and biochar.

Almost three-quarters (72%) of those polled said they expect the carbon offset credit to bifurcate into two classes for reduction/avoidance credits and carbon removal credits. The share of respondents predicting this shift has risen steadily in the last three years.

The work of the Integrity Council for the Voluntary Carbon Market (IC-VCM) was welcomed by many of those surveyed. A third said that the IC-VCM's launch of the Core Carbon Principles (CCPs) will improve the integrity of voluntary carbon offsets.

"The voluntary carbon market has experienced a challenging period, but the work of organisations like the IC-VCM is only just beginning," said Andrea Abrahams, Managing Director, Voluntary Carbon Markets at IETA.

"Stakeholders are fully committed to improving the integrity and reliability of carbon offsets so that the global community can confidently undertake decarbonisation plans knowing that they will be acquiring permanent, verified emission reductions," Abrahams added.

"Ongoing reforms are likely to significantly alter the shape of the sector. This year's survey has shown that the voluntary market is well-placed to adapt and continue playing a crucial role in channelling finance towards climate action," said PwC's Milborrow.

"As demand for carbon credits continues to grow, improving the integrity of the market will be critical to ensuring its long-term credibility and enable continued support from the private sector."

The advent of the UNFCCC's Article 6 markets remains a source of some uncertainty, the survey found, particularly when it comes to aligning the voluntary market with the new UN system. 21% of respondents said integrity and credibility issues around carbon offsets would present challenges, while 20% also highlighted the potential for political risk and a lack of government support.

Learn more and have your say online:
fb.com/ttenergychamber · #energynow

Back to Top

STOW

Helping contractors get prequalified for work with all the major operators in Trinidad & Tobago, including bpTT, Shell, BHP, EOG Resources, NGC, Heritage, Atlantic and all of the major plants on the Point Lisas Industrial Estate.

The Energy Chamber of Trinidad & Tobago
www.energy.tt

For information contact:

keina@energy.tt (Tel: 354-4189) or **ayanna@energy.tt** (Tel: 361-1299)
Visit **www.stowtt.info** for more details.